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PHYSICAL AND CHEMICAL DATA FOR BONNECHERE, BIG PORCUPINE, CROWN, KIMBALL, LOUISA, NUNIKANI, SHERBORNE, SMOKE, AND TIMBERWOLF LAKES IN THE MUSKOKA-HALIBURTON AREA (1983-1985)

R.A.REID AND R.GIRARD

DATA REPORT DR 87/1

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Environment

J. Bishop, Director
Water Resources Branch

Physical and chemical data for Bonnechere, Big Porcupine, Crown, Kimball, Louisa, Nunikani, Sherborne, Smoke, Timberwolf lakes in the Muskoka-Haliburton area (1983-1985)

R.A. Reid and R. Girard

Data Report DR 87/1

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PREFACE

The Data Report Series is intended as a readily available source of basic data collected for lakes and watersheds in the Muskoka/-Haliburton area of Ontario. These data were collected as part of the Lakeshore Capacity Study and/or the Acid Precipitation in Ontario Study.

The limnological portion of the Lakeshore Capacity Study (1975-81) was initiated to investigate the relationships between lakeshore development and lake trophic status in low ionic strength Precambrian lakes. The Acid Precipitation in Ontario Study (1979-present) was initiated, in part, to investigate the effects of the deposition of strong acids on aquatic and terrestrial ecosystems in Ontario. The primary findings of these studies have been and will continue to be published as reviewed papers and technical reports.

Reid, R.A. and R. Girard. 1987. Physical and chemical data for Bonnechere, Big Porcupine, Crown, Kimball, Louisa, Nunikani, Sherborne, Smoke, Timberwolf lakes in the Muskoka-Haliburton area (1983-1985). Ontario Ministry of the Environment Data Report DR 87/1.

ABSTRACT

This report summarizes the physical and chemical data collected for Bonnechere, Big Porcupine, Crown, Kimball, Louisa, Nunikani, Sherborne, Smoke and Timberwolf lakes. Measurements include profiles of temperature, oxygen, pH and dissolved inorganic carbon. Volume-weighted data for 21 chemical parameters are summarized. Chlorophyll a data and Secchi disc depth measurements are also summarized.

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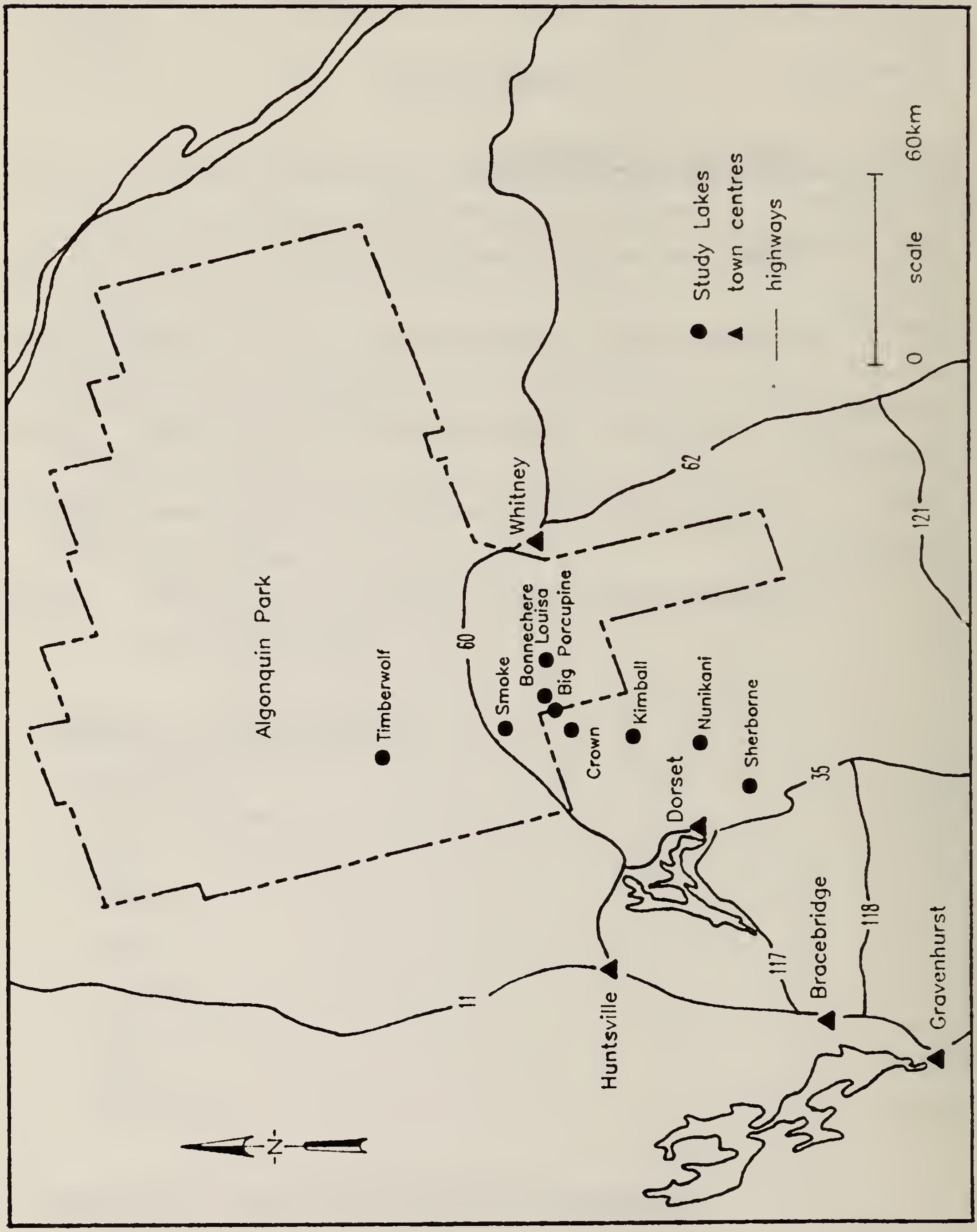
Figure 1. Location of the study area showing the nine lakes



1. Introduction

In 1981 a joint MOE-MNR study began on a group of twelve lakes in Algonquin Park and Haliburton County. The purpose of the study was to investigate water chemistry and the status of the fisheries in lakes sensitive to acidic deposition. Reid et al. (1984) summarized the 1981-83 physical and chemical data collected from these lakes. This report includes data collected from nine of the twelve selected lakes from 1983 to 1985.

2. Methods

The location of the nine study lakes are shown in Figure 1. The sampling station in each lake was at the deepest location and was marked by a float. The field methodology used during the period 1983-85 was identical to that described in Reid et al. (1984). Analytical methods are outlined by Locke and Scott (1986).

3. Study Area

a) Drainage Networks:

Bonnechere

Bonnechere has two lakes in its catchment, Plough and Upper Head. Bonnechere flows in to Phipps Lake and then through a series of lakes to the Madawaska River. The Madawaska flows east and enters the Ottawa River system at Arnprior.

Big Porcupine

Big Porcupine is a second-order lake whose catchment contains Ling and Little Coon lakes plus several large ponds. Big Porcupine drains to the north into Ragged Lake, which drains into Smoke Lake. Smoke Lake flows through Tea Creek to Tea Lake. Tea Lake flows to the Oxtongue River and into Lake of Bays. The flow continues through the Muskoka and Moon River systems to Georgian Bay.

Crown Lake

Crown Lake is a headwater lake with only two small beaver ponds in its watershed. The lake has six permanent inflowing streams and four ephemeral streams. Crown Lake flows north to Ragged Lake which flows to Smoke Lake. The flow direction continues through the Oxtongue, Muskoka, and Moon River systems to Georgian Bay.

Kimball Lake

Kimball Lake has one lake in its catchment - Rockaway Lake. Kimball flows in to Bear Lake and then to Kawagama Lake. Kawagama flows through the Hollow River to Lake of Bays. The flow then follows through the Muskoka and Moon River systems to Georgian Bay on Lake Huron.

Louisa Lake

Louisa Lake has nine lakes in its watershed. The lakes include North Grace, Stringer, Lemon, North Lemon, Rod and Gun, Martin, Cecil, Pondweed and Sitting Duck. The lake flows through Rock Lake to the Madawaska River. The Madawaska River flows east through a series of lakes to enter the Ottawa River at Arnprior.

Nunikani Lake

The Nunikani watershed includes the watersheds of Havelock, Kennisis and Red Pine Lakes. These lakes enter Nunikani Lake at the north-eastern extreme through the Kennisis River. Nine major waterbodies exist within the Nunikani watershed excluding the Kennisis River chain. Four of these waterbodies are in the Nunikani #4 subwatershed, (the largest of the subwatersheds). The Nunikani outflow enters Big Hawk Lake, then flows through Halls, Boshkung, and Mountain Lakes and into the Gull River. The Gull River flows in Balsam Lake south of Coboconk. Balsam Lake outflows east and west through the Trent-Severn controls to either Lake Ontario or Georgian Bay, respectively.

Sherborne Lake

Sherborne Lake naturally flows west to St. Nora Lake. Water management control during the high-flow spring season however, results in discharge from the most southerly tip of the lake into Big Hawk Lake. The natural outflow entering St. Nora reaches Boshkung Lake via Kushog Lake. The water-managed outflow, entering Big Hawk Lake, reaches Boshkung Lake via Hall's Lake to the south. Boshkung Lake reaches the Gull River by a series of lakes and rivers. The Gull River flows into Balsam Lake south of Coboconk. Balsam Lake outflows east and west through the Trent-Severn controls to either Lake Ontario or Georgian Bay, respectively.

Smoke Lake

The Smoke Lake watershed has many lakes in its watershed including two from this study - Crown and Big Porcupine. The other lakes include Swan, Little Swan, Kootchie, Grape, Midget, Ragged, Ling, Little Coon, Mohawk, Paddy, Dizzy and Mizzy. Smoke flows through Tea Creek to Tea Lake which drains into the Oxtongue River which in turn flows into Lake of Bays, part of the Muskoka and Moon River systems.

Timberwolf

Timberwolf is a headwater lake with one small (16 ha) pond (Lilly Pond) in its catchment. Timberwolf flows to Misty Lake and then through a series of lakes to the Petawawa River which flows north and east. The Petawawa River joins the Ottawa River system at Petawawa.

b) Bedrock Geology

The bedrock geology description is reproduced from Jeffries and Snyder (1983) and Reid and Snyder (1986).

i) Geologic History of the Algonquin-Haliburton Study Area

The watersheds lie in the Grenville Province of the Canadian Shield (Wynne-Edwards 1972; Reid and Snyder 1986). The geology of the watersheds reflect two distinct formational processes. The Grenville orogeny is predominantly responsible for rock formation and mountain building, followed by aerial erosion which characterizes the bedrock geology. The second formational process was the Wisconsin glaciation which directly or indirectly resulted in the glacial deposits that overlay the Grenville bedrock.

The Grenville orogeny produced a rectangular land mass, known as the Grenville Province, which stretches from Georgian Bay on Lake Huron to Labrador. The extensive folding during the Grenville orogeny produced north-east to south-west trending beds in the study area.

In addition to folding the metamorphism, the Grenville rock has also undergone extensive faulting and infrequent intrusition of more basic igneous material. The bedrock folding affects local watershed topography with more resistant beds tending to form ridge areas. The major fault set affected lake basin shapes and stream channels, which follow the fault lines. Since the end of Grenville orogeny, this seismically inactive area has undergone intense subaerial and glacial erosion.

The watersheds are part of a large regional dome resulting from two anticlinal forms with axis north-west/south-east and south-west/north-east. The extended period of subaerial erosion, since the Grenville orogeny, creates a peneplain on the regional scale and a local relief of alternating lake and swamp filled valleys, separated by cliffs and ridges. Although subaerial erosion is a major factor in determining the topographical characteristics of the region, the Pleistocene glacial period significantly modified the bedrock and is responsible for the deposition of the unconsolidated material present.

ii) Regional Bedrock Geology

The three major rock classifications are sedimentary, metamorphic, and igneous. Sedimentary rocks are typically formed in low temperature and pressure regimes as a result of the weathering of previously-deposited material or precipitation from aqueous solutions. Sedimentary rocks are at equilibrium near surface and become less stable as they are buried under more recent deposits. Igneous rocks which result from the cooling of silicate melt are unstable at temperatures less than 700°C. Volcanic igneous rock which form at the earth's surface will be in chemical equilibrium at similar pressures to sedimentary rocks and at depth will be unstable at high temperature. The conditions leading to the metamorphism of sedimentary and igneous rock types are found at depths of 3 to 20 km under the earth's surface. Metamorphic rocks, developed at temperatures ranging from 300°C to 1100°C, may be both structurally and mineralogically different from the parent rock type. Classically the formation of metamorphic rocks proceeds as solid phase transition.

The characteristics of a metamorphic rock are largely dependent on the composition of the parent sedimentary or igneous rock, and the prevailing temperature and pressure. Compositional constraints of the parent material results in metamorphism of carbonate-rich limestones to carbonate-rich marbles, and silicate-rich shales to silicate-rich slates. The grade of metamorphism common to the Algonquin-Haliburton region is Amphibolite facies and in some instances the Granulite facies. The bedrock of the Algonquin-Haliburton region while undergoing high-grade metamorphism has attained temperatures and pressures approaching the melting point of granite.

The two types of metamorphism are contact and regional. Contact metamorphism occurs adjacent to magmatic intrusions. The metamorphozed zone between the magmatic intrusion and the unaltered host rocks is often only a few km. in width and represents a steep geothermal gradient. Generally contact metamorphism is restricted to within a few km. of the earth's surface and thus is of minor significance in the Algonquin-Haliburton area. Regional metamorphism is associated with the large-scale folding of thick rock sequences and the subsequent formation of mountains. The compression of the Grenville Province against the older shield rocks during continental collision resulted in the Algonquin-Haliburton rocks being subjected to extreme pressure and high temperatures as they became the roots of large fold mountains. The Algonquin-Haliburton metamorphozed bedrock originated as the mountain roots which were exposed by continuous subaerial erosion. The regionally metamorphozed rocks of the study area often exhibit characteristics of both metamorphic and igneous rocks since their formation occurred at temperatures and pressures near the melting point of the rock mass. The possible simultaneous metamorphism and injection of igneous material further complicates the geology of the region. The injection of sufficient quantities of igneous material into the host rock results incontorted migmatic rock mass having zones of granitic material swirled in more typically metamorphic rock. The presence of a liquid phase under pressure may cause the liquid to intrude surrounding rock types resulting in dykes or pegmatite inclusions. Small pegmatite veins are common in the study area attesting to the high temperatures and pressures imposed on the region. The distinctive fabric of metamorphic rocks evolved as a result of the growth of crystals in a more or less solid phase. Metamorphic rocks are composed mineralogically of mica, amphibole, feldspar and have a different crystal orientation than the igneous rocks. Auxillary minerals typical of metamorphic rocks include rutile, talc, garnet, chlorite, and tourmaline. The most distinctive feature of regionally metamorphozed rocks is the presence of shear stress induced "foliation gneissosity". The tendency of tabular micaceous and prismatic amphibole minerals to orient themselves parallel to the plane of foliation is unique to regionally metamorphozed rocks. Mineralogic segregation is common in virtually all metamorphic rocks and is responsible for the banded appearance of the rocks.

Figure 2. Bedrock geology of the study area after lumbers (1971; 1976a, b; 1982)
(● - shows the nine study lakes (See Figure 1)

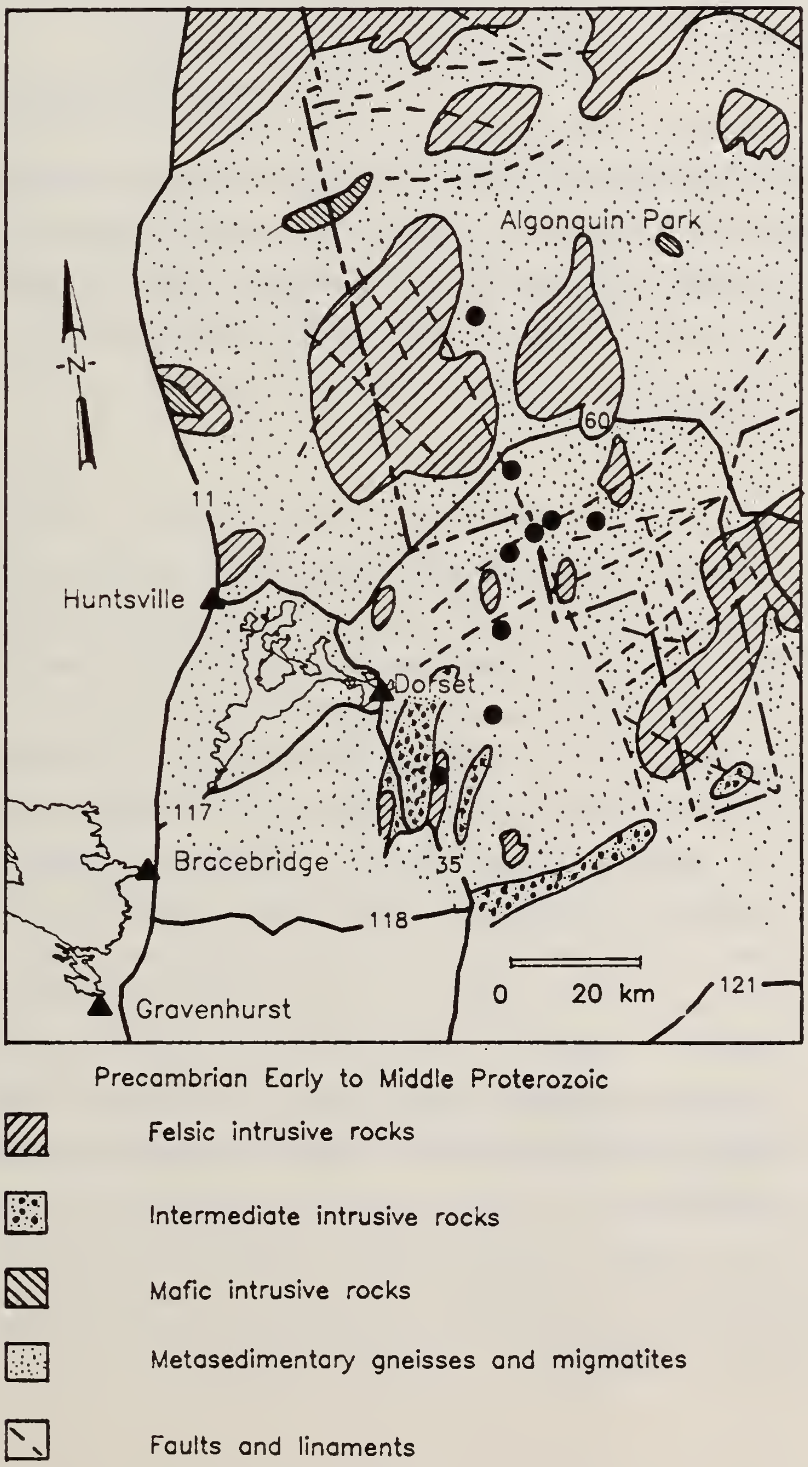


Figure 2 illustrates the bedrock geology of the area. All of the study lakes are in the zone of metasedimentary gneisses and migmatites except Sherborne. Sherborne is in an area of felsic intrusive rocks.

c) Surficial Geology

The surficial geology description is reproduced from Jeffries and Snyder (1983) and Reid and Snyder (1986).

i) Summary of the Regional Glacial Deposit Types

The Algonquin-Haliburton region contains representatives of most known glacial deposit types within its boundaries. The following discussion includes the physical characteristics of all common deposits found in the area and the associated lake shoreline and stream drainage characteristics.

1) Till Plains

Till is the spatially dominate glacial deposit of the region and includes both subglacial "basal" till deposited by advancing ice and englacial "meltout" till deposited by the retreating ice sheet. Till, also known as "ground moraine", is a poorly sorted mix of sand, gravel and boulders. It generally exists as a discontinuous veneer over bedrock, with large floats or boulders melted out of the glacier lying on the surface. Large, dislocated boulders of upturned bedrock also commonly protrude from the till's surface. The thin till and rock ridges are divided on the basis of depth and prominence of exposed bedrock. Lake-till interfaces and streams flowing in thick till have a gravel boulder bed. In zones of thin till the stream channel generally flows on bedrock, littered with boulders.

2) Drumlins

Drumlins are asymmetrical, oval-shaped hills, generally of clay-enriched till material. The elongate axis of the drumlin is indicative of ice direction, with movement toward the narrow end of the deposits. The generally shallow amount of material and low clay content results in only a few drumlins in the lake watershed study area. However, drumlins are more common in the Minden area (to the south) and in the northern section of Algonquin Park.

3) Terminal Moraines

Terminal moraines resulting from the accumulation of debris at the edge of a stationary ice front may be found in the region. The consistent ice movement throughout the study area during both advance and retreat of the ice front is probably responsible for the absence of this deposit type.

4) Eskers

Eskers are formed by sinuous rivers flowing generally under, but possibly in or on the ice. These deposits form ribbon-like ridges easily identified on air photos and in the field. Eskers occur in the central region of Algonquin Park and are a part of the kame fields and drumlins. Lake shorelines, formed by these eskers tend to be low-gradient littoral zones with broad, sandy beaches. Rivers or streams cutting across them exhibit heavy sand bed loads.

5) Kame

Kame deposits are often formed by rapid deposition in small temporary glacial lakes. Fluctuating lake levels result in many kame deposits being mixtures of fluvial and unsorted, or partially sorted, till material. Kame is more fluvial in nature and hence more sorted than till and much coarser and less sorted than eskers. Continuous opening of new outlets from these small glacial contact lakes created continuously changing conditions and an often complex deposition history. Kame deposits are found in abundance in Algonquin Park, particularly in the central and northern sections. Lake shorelines in these deposits are generally sandy. Stream channels tend to be cobble strewn with sand and gravel bedload. Large streams cut deep V-shaped valleys in the relatively deep kame deposits and also form small alluvium deltas at the stream mouth. Kames may also have small "kettle" or ice block, melt-out depressions on their surface, due to ice front proximity during formation.

6) Outwash Sand and Gravel

Sediment-laden glacial meltwater streams and rivers deposit sand and gravel in the broad valleys south of the ice flow. Outwash deposits are mainly sand and silt, although gravels are often deposited during high flow periods. Abundant bedrock cross bedding and ripple marks attest to the fluvial origin of the deposit. Depressions in the outwash plains caused fragments of ice becoming lodged in the flood plains are now at sites of large bogs. Generally well-drained, the outwash spillway deposits support many of the major highways in north central Ontario.
Major spillways of the Algonquin-Haliburton region are at the Gull River in the south, Oxtongue River in the west, and Lake of Two Rivers system to the north-east. Lake shoreline contacting outwash deposits form broad, sandy beaches and general dipping, sandy littoral zones. Streams flowing in outwash deposits meander due to the low gradient, and have sand and gravel streambeds.

7) Lacustrine

Lake Algonquin received major fluxes of sediments during the melting of the Wisconsin ice sheet. Near-shore deposits of sand gave way to silt deposition at moderate depth and even generally to clays in deep-water. High-flow melt periods cause some intrusion into the deeper portions of the ice contact lakes and resulted in thin, alternating beds of clay and silt or "varves". Deposits of this type occur along the Highway 11 corridor to the east, the Gull River System, and to the north-east of Algonquin Park. Shorelines in contact with lacustrine deposits tend to have clay bottoms. Streams typically cut down to the more resistant clay beds.

ii) Regional Surficial Geology

Deposits of the Quarternary glaciation dominate the Algonquin-Haliburton region. The glacial deposits are the ice-contact, fluvial and lacustrine type. Ice-contact type deposits include basal and melt-out "englacial" tills and melt-out kame deposits, genrally recognized by poor sorting and the presence of large boulders in the matrix. The fluvial deposits generally consist of the sand and gravel deposited by the melt-waters flowing off the glacier. The size sorting of the fluvial deposits reflects the general inability of the melt-water to move the large boulders more than short distances from the glacier face. The fine silt and clay fraction remain suspended in the outwash rivers and are deposited in the deeper glacial lake regions.

Lacustrine deposits generally consist of clays and fine silts deposited in deep water. The amount of deposit depends upon the distance from the shore, the water depth and the sediment source. The points of river entry into the glacial lakes were potential delta sites. As a result, wave action, combined with the lateral transport of sediment, formed clean beach sand deposits.

iii) Surficial Geology of the nine catchments

Tables 1 and 2 summarize the surficial geology of the nine watersheds. Reid and Snyder (1986) gave a detailed summary of the Big Porcupine, Crown, Nunikani, and Sherborne catchments.

The surficial geology of Kimball, Louisa and Smoke catchments is summarized from the Ontario Geological Survey Maps of Ontario (Geddes and McClenaghan 1984).

Kimball

The Kimball Lake catchment (Table 1) is dominated (60.33% of the area) by bedrock outcrops (knobs). The bedrock-drift complex covers 23.82% of the watershed. The pond area (11.3%) represents the area of water in the watershed above Kimball Lake. Small pockets of peat (1.76%), glaciofluvial outwash (1.67%) and alluvium (fine sand, silt, organics or muck) (0.40%) exist throughout the watershed.

Louisa Lake

Bedrock outcrops (41.02%) and thin till drift (34.77%) are the main types of surficial geology throughout the catchment (Table 1). Deeper till (silty sand or sand, stoney till) covers 10.35% of the catchment. Pond areas cover 6.26%, swamp or organic deposits cover 4.68%, and a glaciofluvial outwash represents 2.92% of the catchment.

Smoke

Bedrock and thin till represent 68.76% of the Smoke catchment (Table 1). Deeper till covers 8.55% of the catchment. Small areas of outwash sand, peat are also present. Ragged Lake and numerous smaller lakes account for 12% of area of the watershed.

Bonnechere and Timberwolf

The Bonnechere and Timberwolf watersheds (Table 1) are both dominated by bedrock and thin till areas. Timberwolf also has an area of Sphagnum peat (11.7%).

Table 1. Surficial geology (percent) (Reid and Snyder (1986) - Big Porcupine, Crown, Nunikani and Sherborne; this study - Bonnechere and Timberwolf)

Type[i]	Bonnechere	Big Porcupine	Crown	Nunikani	Sherborne	Timberwolf
1	56.59	1.9	4.2	0.8	2.6	46.48
2	35.36	63.1	69.2	79.5	85.75	31.08
2a	-	4.4	5.3	5.9	2.3	4.80
3	2.80	14.4	14.1	-	1.25	-
4	-	-	2.3	-	-	5.46
5	2.08	3.0	2.4	-	0.14	-
6	-	-	-	-	-	-
7	-	2.4	1.0	0.7	0.3	11.17
7a	-	2.8	0.4	0.6	1.08	-
7b	-	1.9	-	6.6	0.09	-
Pond	3.17	5.0	0.8	5.1	3.6	0.97

[i] Surficial geology composition types (Reid and Snyder DR 86/1)

1	Exposed bedrock
2	Thin till and rock ridges
2a	Continuous thin till
3	Minor till plain
4	Ice contact kame complex
5	Outwash sand and gravel
6	Sand, beach and plain
7	Peat - Sphagnum, conifer
7a	Peat - rushes, reeds, alders
7b	Peat - perennial flooding
Pond	Pond area within the watershed

Table 2. Surficial geology of Kimball, Louisa and Smoke. (Ontario Geological Survey maps)

Type[i]	Kimball	Louisa	Smoke
1	60.33	41.02	45.17
2	0.24	-	-
2a	20.72	34.77	23.59
2b	2.86	-	-
3	0.73	10.35	8.58
5	1.67	2.92	4.81
6	-	-	0.12
7	0.40	-	0.34
8	1.76	4.68	5.4
Pond	11.3	6.26	12.0

[i] Surficial geology composition types (Ont. Geol. Survey)

1	Bedrock knobs, ridges, in places with very thin, discontinuous drift cover; unsubdivided Middle to Late Precambrian metaplutonic and metasedimentary rocks
2	Bedrock-drift complex: thin drift with numerous outcrops 2 Unsubdivided veneer 2a Mainly till cover 2b Mainly sand and gravel cover
3	Till: silty sand to sand, stoney till 3 Unsubdivided 3a Compact to subcompact, silty sand till, low clast content 3b Loose to moderately compact, sandy, clast rich till
4	Glaciogluvial, ice contract stratified deposits: sand, gravel, boulders, minor till, silt 4a Kames, kame terraces, stagnant ice features 4b Eskers, esker complexes
5	Glaciofluvial outwash 5 Unsubdivided 5a Mainly sand 5b Mainly gravel and sandy gravel
6	Glaciolacustrine deposits sand, silt, clay 6a Fine to medium sand 6b Silt and clay
7	Alluvium: fine sand, silt, organics, muck
8	Swamp and organic deposits: peat, muck
Pond	Pond area within the watershed

4. Chemical Results

The chemical data are shown in Appendix 1 and 2 as volume-weighted averages for spring overturn, the summer stratification period, fall overturn, the ice-free period, and the hydrologic year (June 1 to May 31). Appendix 3 shows the profile data for temperature, oxygen, pH, and dissolved inorganic carbon (DIC). DIC was measured on Louisa, Smoke and Timberwolf only. Table 3 summarizes the ice-free means for twenty-one parameters for each of the study lakes. Tables 4-6 show the annual averages of alkalinity, pH and sulphate respectively.

No trends in alkalinity or pH are apparent in any of the lakes. The decrease in sulphate may be, in part, due to improved chemical methodology, and, in part, due to decreased SO_4 deposition. This is discussed more fully in Dillon, Lusis and Reid (unpubl. manuscript).

Table 3. The mean ice-free chemical data for the nine study lakes over the entire study period. Averages in Appendix 1(i) in this report represent only 1983-85.

		Bonnechere	Big Porcupine	Crown	Kimball	Louisa	Nunikani	Sherborne	Smoke	Timberwolf
Location Lat.		45°28'	45°27'	45°26'	45°26'	45°28'	45°12'	45°11'	45°31'	45°41'
Long.		78°35'	78°37'	78°40'	78°41'	78°29'	78°44'	78°47'	78°41'	78°48'
Area ha		105	235	136	213	531	116	252	679	167
Elevation m		478	488	472	358	441	370	358	421	427
n yrs		3	3	3	3	4	3	4	5	4
ALKTI	mg/L as $CACO_3$	0.52	1.00	0.80	1.26	1.13	1.61	1.20	2.54	1.47
ALUT	µg/L	68.2	26.0	13.7	39.6	37.2	23.4	31.7	27.0	43.8
Ca	mg/L	2.26	2.18	2.10	2.66	2.56	2.67	2.45	2.74	2.41
Cl	mg/L	0.26	0.25	0.26	0.30	0.25	0.38	0.36	1.19	0.24
COLTR	true colour	13.8	7.6	4.9	10.0	9.8	8.0	8.1	12.0	25.6
COND25	µmhos/cm	26.0	25.4	24.4	29.7	28.7	29.4	27.2	33.5	27.4
DIC	mg/L (as C)	0.73	0.67	0.50	0.86	0.71	0.80	0.85	1.11	0.87
DOC	mg/L (as C)	3.21	2.07	1.85	2.47	2.94	2.52	2.36	2.99	3.93
Fe	µg/L	130	96.3	34.4	41.1	30.9	57.6	70.7	56.4	201
F	µg/L	45.7	45.4	37.8	45.9	48.9	50.0	52.7	37.7	43.7
K	mg/L	0.40	0.40	0.37	0.40	0.48	0.52	0.34	0.41	0.46
Mg	mg/L	0.57	0.58	0.55	0.73	0.66	0.66	0.60	0.81	0.63
Mn	µg/L	34.3	50.5	22.8	17.1	15.3	17.5	46.8	26.5	50.9
Na	mg/L	0.50	0.57	0.51	0.59	0.60	0.59	0.55	1.21	0.64
NH_4	µg/L (as N)	15.3	9.8	9.7	4.5	9.9	9.0	9.6	7.8	9.57
NO_2+NO_3	µg/L (as N)	41.9	59.3	34.2	133	133	103	82.1	116	84.2
TKN	µg/L (as N)	197	167	164	154	180	181	171	195	227
pH		5.68	6.05	6.03	6.03	6.01	6.20	6.02	6.36	6.08
Phosphorus	µg/L	5.4	4.6	4.4	3.7	4.0	4.4	4.4	5.5	7.1
Si	mg/L	0.87	0.84	0.29	1.27	1.27	0.79	1.04	0.99	1.15
SO_4	mg/L (as SO_4)	7.51	7.23	7.20	8.31	7.81	7.79	7.35	7.80	7.18
CHLRAT	µg/L	1.85	2.06	1.49	1.46	1.36	1.78	2.04	2.69	3.53
CHLRAC	µg/L	0.98	1.50	0.98	0.99	0.87	1.19	.62	2.09	2.69
SECCHI	m	5.3	6.4	6.9	7.1	6.5	6.3	6.5	5.0	3.55

Table 4. The ice-free mean alkalinity (µeq/L^{-1} as $CaCO_3$) for the nine study lakes.

	Year						
Lake	1981	1982	1983	1984	1985	n	$\bar{x}$
Bonnechere			10.0±1.8	10.4±4.2	10.7±2.5	3	10.4±0.32
Big Porcupine			20.2±2.8	19.9±9.1	19.7±4.6	3	19.9±0.30
Crown			15.3±2.8	16.9±2.4	15.6±4.7	3	15.9±0.86
Kimball			24.6±2.7	25.0±4.6	25.8±2.3	3	25.2±0.55
Louisa	21.0±2.0	21.0±1.9	21.6±2.5	23.6±4.0	24.2±0.93	5	22.2±2.0
Nunikani			30.4±5.6	33.0±7.3	33.0±2.9	3	32.2±1.5
Sherborne			24.0±5.0	25.4±5.2	22.8±2.5	3	24.2±1.4
Smoke	51.8±2.4	49.8±3.2	49.8±3.1	52.0±3.2	50.8±2.9	5	50.8±1.1
Timberwolf		30.2±5.8	29.2±5.8	28.0±8.4	30.6±5.9	4	29.4±1.1

Table 5. The ice-free period mean pH for the nine study lakes.

	Year						
Lake	1981	1982	1983	1984	1985	n	Mean
Bonnechere			5.68±0.11	5.71±0.08	5.66±0.14	3	5.68±0.03
Big Porcupine			6.08±0.11	6.05±0.18	6.01±0.19	3	6.05±0.03
Crown			6.01±0.10	6.05±0.09	6.04±0.17	3	6.03±0.02
Kimball			6.01±0.06	6.04±0.06	6.04±0.07	3	6.03±0.02
Louisa	6.04±0.11	5.98±0.08	6.01±0.12	6.02±0.09	6.01±0.05	5	6.02±0.01
Nunikani			6.20+0.05	6.23±0.07	6.18±0.10	3	6.20±0.02
Sherborne			6.04±0.12	6.01±0.14	6.01±0.07	3	6.02±0.01
Smoke	6.40±0.14	6.33±0.11	6.34±0.05	6.43±0.12	6.30±0.07	5	6.36±0.05
Timberwolf		6.11±0.16	6.08±0.08	6.10±0.06	6.05±0.15	4	6.08±0.03

Table 6. The ice-free mean SO_4 ($\mu eq \cdot L^{-1}$) for the study lakes.

Lake	Year 1981	1982	1983	1984	1985	n	Mean
Bonnechere			160.9± 5.3	158.2 ±3.4	149.62±4.4	3	156.3±5.8
Big Porcupine			154.4± 3.5	147.75±6.2	149.0 ±6.4	3	150.5±3.6
Crown			157.9± 7.4	146.3 ±8.2	145.0±3.7	3	149.8±7.1
Kimball			180.6±10.3	172.7 ±3.9	165.4±3.2	3	172.9±7.6
Louisa	177.1±7.1	168.6±8.0	170.2± 7.7	162.5 ±2.2	154.6±2.4	5	166.7±8.4
Nunikani			164.8± 3.1	162.9 ±5.6	158.8±2.3	3	162.1±3.0
Sherborne			155.6± 1.7	152.3 ±3.3	149.8±1.6	3	152.3±2.6
Smoke	172.7±4.7	162.3±6.1	160.4± 2.4	159.4 ±4.1	156.9±6.3	5	162.3±6.1
Timberwolf		148.4±4.2	154.2± 7.6	154.0 ±4.3	140.9±3.4	3	149.4±6.2

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BONNECHERE

Calculation date: 86/06/18

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	830521	830521	830521	831101	830425	830601
END	830520	831031	831031	831031	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	840521	840521	840521	841106	840425	840601
END	840520	841105	841105	841105	841105	841214	841214	850531

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	850513	850513	850513	851120	850425	850601
END	850512	851119	851119	851119	851119	851204	851204	860531

ALKTI Alkalinity, TIA as $CaCO_3$ mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.406	0.36	0.71	1.14	0.523		0.504	0.468
MIN	I	0.406	0.29	0.46	0.58	0.424		0.406	0.19
MAX	I	0.406	0.42	1.05	2.67	0.651		0.651	0.651
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.19	0.404	0.752	0.702	0.523	0.82	0.518	0.533
MIN	I	0.19	0.29	0.42	0.27	0.354	0.82	0.19	0.30
MAX	I	0.19	0.55	1.09	1.01	0.668	0.82	0.82	0.82
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.30	0.48	0.736	0.672	0.584		0.536	0.584
MIN	I	0.30	0.42	0.59	0.58	0.533		0.30	0.533
MAX	I	0.30	0.61	1.00	0.86	0.672		0.672	0.672
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.299	0.415	0.733	0.839	0.543	0.82	0.519	0.528
MIN	I	0.19	0.36	0.71	0.672	0.523	0.82	0.504	0.468
MAX	I	0.406	0.48	0.752	1.14	0.584	0.82	0.536	0.584
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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BONNECHERE                                      CALCULATION DATE: 86/06/18
ALUT    Aluminum  ug/L

1983->84
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      111.         48.8        82.5        107.          65.2                         74.4          71.4
MIN     I      111.         24.0        68.0        102.          47.4                         47.4          47.4
MAX     I      111.         85.0        96.0        114.          84.6                         111.          96.0
N       I      1.00         4.00        4.00        4.00          4.00                         5.00          5.00

1984->85
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      96.0         46.8        81.4        98.6          61.7          58.0           66.1          64.4
MIN     I      96.0         31.0        77.0        96.0          43.3          58.0           43.3          43.3
MAX     I      96.0         72.0        87.0        101.          80.6          58.0           96.0          84.0
N       I      1.00         5.00        5.00        5.00          5.00          1.00           7.00          7.00

1985->86
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      84.0         39.4        83.4        98.0          60.1                         64.1          60.1
MIN     I      84.0         26.0        75.0        89.0          48.9                         48.9          48.9
MAX     I      84.0         62.0        88.0        114.          74.1                         84.0          74.1
N       I      1.00         5.00        5.00        5.00          5.00                         6.00          5.00

Overall summary of means
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      97.0         45.0        82.4        101.          62.4          58.0           68.2          65.3
MIN     I      84.0         39.4        81.4        98.0          60.1          58.0           64.1          60.1
MAX     I      111.         48.8        83.4        107.          65.2          58.0           74.4          71.4
N       I      3.00         3.00        3.00        3.00          3.00          1.00           3.00          3.00



CAUR    Calcium  mg/L

1983->84
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      2.44         2.20        2.24        2.34          2.22                         2.26          2.24
MIN     I      2.44         2.10        2.20        2.20          2.13                         2.13          2.13
MAX     I      2.44         2.30        2.30        2.50          2.31                         2.44          2.36
N       I      1.00         5.00        5.00        5.00          5.00                         6.00          6.00

1984->85
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      2.36         2.26        2.35        2.36          2.30          2.35           2.31          2.30
MIN     I      2.36         2.19        2.29        2.31          2.25          2.35           2.25          2.25
MAX     I      2.36         2.34        2.43        2.46          2.36          2.35           2.36          2.36
N       I      1.00         5.00        5.00        5.00          5.00          1.00           7.00          7.00

1985->86
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      2.28         2.15        2.26        2.31          2.20                         2.22          2.20
MIN     I      2.28         2.03        2.22        2.14          2.09                         2.09          2.09
MAX     I      2.28         2.28        2.30        2.39          2.30                         2.30          2.30
N       I      1.00         5.00        5.00        5.00          5.00                         6.00          5.00

Overall summary of means
        I    SPRING                                                SUMMER        FALL           ICE      JUNE 1->
        I   OVERTURN        EPI         META        HYPO          STRAT      OVERTURN          FREE        MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN    I      2.36         2.21        2.28        2.34          2.24          2.35           2.26          2.25
MIN     I      2.28         2.15        2.24        2.31          2.20          2.35           2.22          2.20
MAX     I      2.44         2.26        2.35        2.36          2.30          2.35           2.31          2.30
N       I      3.00         3.00        3.00        3.00          3.00          1.00           3.00          3.00
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BONNECHERE                                            CALCULATION DATE: 86/06/18
CLIDUR  Chloride  mg/L

1983->84
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I      0.285      0.262         0.28        0.266         0.273                     0.275       0.261
MIN    I      0.285       0.23         0.21         0.20         0.251                     0.251        0.20
MAX    I      0.285       0.29         0.38         0.30         0.329                     0.329       0.329
N      I       1.00       5.00         5.00         5.00          5.00                      6.00        6.00

1984->85
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I       0.20      0.235        0.246        0.284         0.244         0.31        0.247        0.26
MIN    I       0.20       0.16         0.15         0.20         0.161         0.31        0.161       0.161
MAX    I       0.20      0.285         0.32         0.34         0.302         0.31         0.31        0.31
N      I       1.00       5.00         5.00         5.00          5.00         1.00         7.00        7.00

1985->86
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I       0.29      0.234        0.248        0.254          0.24                     0.248        0.24
MIN    I       0.29       0.11         0.14         0.16         0.119                     0.119       0.119
MAX    I       0.29       0.30         0.32         0.31         0.304                     0.304       0.304
N      I       1.00       5.00         5.00         5.00          5.00                      6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I      0.258      0.244        0.258        0.268         0.252         0.31        0.257       0.254
MIN    I       0.20      0.234        0.246        0.254          0.24         0.31        0.247        0.24
MAX    I       0.29      0.262         0.28        0.284         0.273         0.31        0.275       0.261
N      I       3.00       3.00         3.00         3.00          3.00         1.00         3.00        3.00




COLTP    Colour (true)

1983->84
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I       14.3       10.6         18.8         32.4          14.5                      14.4        14.6
MIN    I     . 14.3       9.00         15.0         20.0          13.0                      13.0        13.0
MAX    I       14.3       13.0         25.0         50.0          15.6                      15.6        15.6
N      I       1.00       5.00         5.00         5.00          5.00                      6.00        6.00

1984->85
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I       15.0       10.4         15.6         28.2          13.2         14.0         13.6        13.9
MIN    I       15.0       3.00         11.0         11.0          5.98         14.0         5.98        5.98
MAX    I       15.0       23.0         27.0         47.0          26.5         14.0         26.5        26.5
N      I       1.00       5.00         5.00         5.00          5.00         1.00         7.00        7.00

1985->86
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I       17.0       9.20         15.2         21.4          12.5                      13.3        12.5
MIN    I       17.0       7.00         10.0         18.0          10.1                      10.1        10.1
MAX    I       17.0       11.0         18.0         30.0          14.6                      17.0        14.6
N      I       1.00       5.00         5.00         5.00          5.00                      6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN        EPI         META         HYPO         STRAT     OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN   I       15.4       10.1         16.5         27.3          13.4         14.0         13.8        13.7
MIN    I       14.3       9.20         15.2         21.4          12.5         14.0         13.3        12.5
MAX    I       17.0       10.6         18.8         32.4          14.5         14.0         14.4        14.6
N      I       3.00       3.00         3.00         3.00          3.00         1.00         3.00        3.00
```

BONNECHERE CALCULATION DATE: 86/06/18
COND25 Conductivity (25 C)

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.2	26.0	26.6	28.3	26.3		26.3	26.5
MIN	I	26.2	26.0	26.0	28.0	26.1		26.1	26.1
MAX	I	26.2	26.1	27.1	29.0	26.6		26.6	27.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	27.0	25.2	26.8	27.8	25.9	26.1	26.1	26.0
MIN	I	27.0	23.5	26.1	27.5	25.4	26.1	25.4	25.4
MAX	I	27.0	25.9	27.7	28.4	26.2	26.1	27.0	26.2
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.1	24.8	25.8	26.6	25.3		25.5	25.3
MIN	I	26.1	24.3	25.3	26.4	25.1		25.1	25.1
MAX	I	26.1	25.1	26.5	27.0	25.6		26.1	25.6
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.4	25.3	26.4	27.6	25.9	26.1	26.0	25.9
MIN	I	26.1	24.8	25.8	26.6	25.3	26.1	25.5	25.3
MAX	I	27.0	26.0	26.8	28.3	26.3	26.1	26.3	26.5
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

DIC Dissolved Inorganic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.762	0.26	1.13	2.11	0.653		0.671	0.654
MIN	I	0.762	0.19	0.63	1.48	0.545		0.545	0.545
MAX	I	0.762	0.34	2.13	3.06	0.826		0.826	0.826
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.72	0.256	1.19	2.00	0.657	0.84	0.692	0.748
MIN	I	0.72	0.15	0.78	1.50	0.548	0.84	0.548	0.548
MAX	I	0.72	0.44	2.09	2.86	0.763	0.84	0.84	1.11
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.11	0.288	1.21	1.98	0.785		0.839	0.785
MIN	I	1.11	0.25	0.75	1.44	0.731		0.731	0.731
MAX	I	1.11	0.42	1.94	2.52	0.845		1.11	0.845
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.864	0.268	1.18	2.03	0.698	0.84	0.734	0.732
MIN	I	0.72	0.256	1.13	1.98	0.653	0.84	0.671	0.664
MAX	I	1.11	0.288	1.21	2.11	0.785	0.84	0.839	0.785
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BONNECHERE CALCULATION DATE: 86/06/18
DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.12	3.04	3.08	3.08	3.06		3.07	3.12
MIN	I	3.12	2.90	3.00	2.90	2.95		2.95	2.95
MAX	I	3.12	3.20	3.20	3.40	3.19		3.19	3.40
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.40	3.36	3.18	3.10	3.29	3.20	3.29	3.26
MIN	I	3.40	3.20	3.00	3.00	3.18	3.20	3.18	3.18
MAX	I	3.40	3.50	3.40	3.20	3.43	3.20	3.43	3.43
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.20	3.18	3.18	3.15	3.27		3.25	3.27
MIN	I	3.20	2.70	2.80	3.00	3.08		3.08	3.08
MAX	I	3.20	3.60	3.40	3.60	3.40		3.40	3.40
N	I	1.00	5.00	5.00	4.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.24	3.19	3.15	3.11	3.20	3.20	3.21	3.22
MIN	I	3.12	3.04	3.08	3.08	3.06	3.20	3.07	3.12
MAX	I	3.40	3.36	3.18	3.15	3.29	3.20	3.29	3.27
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

FEUT Iron ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	128.	30.0	147.	634.	94.3		100.	147.
MIN	I	128.	15.0	65.0	240.	57.1		57.1	57.1
MAX	I	128.	50.0	400.	1580.	191.		191.	410.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	410.	53.8	136.	339.	102.	345.	181.	152.
MIN	I	410.	40.0	85.0	185.	73.1	345.	73.1	73.1
MAX	I	410.	75.0	200.	685.	137.	345.	410.	345.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	210.	36.8	117.	270.	89.3		109.	89.3
MIN	I	210.	18.0	68.0	160.	65.0		65.0	65.0
MAX	I	210.	58.0	230.	540.	125.		210.	125.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	249.	40.2	133.	414.	95.2	345.	130.	129.
MIN	I	128.	30.0	117.	270.	89.3	345.	100.	89.3
MAX	I	410.	53.8	147.	634.	102.	345.	181.	152.
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
BONNECHERE                                    CALCULATION DATE: 86/06/18
FFIDUR  Fluoride  ug/L

1983->84
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I                 45.5       44.3       44.8        45.0                     45.0       45.5
MIN   I                 43.8       42.5       43.6        43.7                     43.7       43.7
MAX   I                 46.8       46.2       46.0        46.4                     46.4       47.5
N     I                 4.00       4.00       4.00        4.00                     4.00       5.00

1984->85
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I      47.5       47.2       46.2       46.6        46.7       47.6         46.9       46.1
MIN   I      47.5       43.5       42.0       42.0        42.7       47.6         42.7       41.8
MAX   I      47.5       50.8       50.2       50.3        50.6       47.6         50.6       50.6
N     I      1.00       5.00       5.00       5.00        5.00       1.00         7.00       7.00

1985->86
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I      41.8       46.5       44.9       45.1        45.8                     45.1       45.8
MIN   I      41.8       44.5       43.4       44.6        44.3                     41.8       44.3
MAX   I      41.8       47.8       46.8       45.6        47.1                     47.1       47.1
N     I      1.00       5.00       5.00       5.00        5.00                     6.00       5.00

Overall summary of means
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I      44.7       46.4       45.1       45.5        45.8       47.6         45.7       45.8
MIN   I      41.8       45.5       44.3       44.8        45.0       47.6         45.0       45.5
MAX   I      47.5       47.2       46.2       46.6        46.7       47.6         46.9       46.1
N     I      2.00       3.00       3.00       3.00        3.00       1.00         3.00       3.00



KKUR    Potassium  mg/L

1983->84
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I     0.439      0.392       0.40      0.396       0.396                    0.404      0.392
MIN   I     0.439       0.36       0.38       0.38       0.371                    0.371       0.37
MAX   I     0.439       0.42       0.42       0.42       0.415                    0.439      0.415
N     I      1.00       5.00       5.00       5.00        5.00                     6.00       6.00

1984->85
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I      0.37      0.379      0.392      0.396       0.384                    0.382      0.385
MIN   I      0.37       0.37       0.39       0.39       0.373                     0.37      0.373
MAX   I      0.37       0.39       0.40       0.41       0.396                    0.396      0.396
N     I      1.00       5.00       5.00       5.00        5.00                     6.00       6.00

1985->86
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I      0.39      0.402      0.404      0.414       0.404                    0.402      0.404
MIN   I      0.39       0.39       0.39       0.39       0.393                     0.39      0.393
MAX   I      0.39       0.42       0.42       0.43       0.413                    0.413      0.413
N     I      1.00       5.00       5.00       5.00        5.00                     6.00       5.00

Overall summary of means
      I    SPRING                                        SUMMER       FALL         ICE    JUNE 1->
      I  OVERTURN       EPI        META       HYPO        STRAT    OVERTURN        FREE     MAY 31
--------------------------------------------------------------------------------------------------
MEAN  I      0.40      0.391      0.399      0.402       0.395                    0.396      0.394
MIN   I      0.37      0.379      0.392      0.396       0.384                    0.382      0.385
MAX   I     0.439      0.402      0.404      0.414       0.404                    0.404      0.404
N     I      3.00       3.00       3.00       3.00        3.00       0.00          3.00       3.00
```

BONNECHERE CALCULATION DATE: 86/06/16
MGUR Magnesium mg/L

1983->84

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.514	0.544	0.552	0.552	0.55		0.544	0.558
MIN	I	0.514	0.52	0.50	0.50	0.515		0.514	0.515
MAX	I	0.514	0.56	0.58	0.60	0.571		0.571	0.60
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.60	0.582	0.594	0.596	0.587	0.61	0.592	0.586
MIN	I	0.60	0.56	0.58	0.58	0.57	0.61	0.57	0.56
MAX	I	0.60	0.61	0.62	0.62	0.612	0.61	0.612	0.612
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.56	0.552	0.562	0.574	0.558		0.558	0.558
MIN	I	0.56	0.53	0.53	0.53	0.536		0.536	0.536
MAX	I	0.56	0.59	0.58	0.60	0.585		0.585	0.585
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.558	0.559	0.569	0.574	0.565	0.61	0.565	0.568
MIN	I	0.514	0.544	0.552	0.552	0.55	0.61	0.544	0.558
MAX	I	0.60	0.582	0.594	0.596	0.587	0.61	0.592	0.586
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

MNUT Manganese ug/L

1983->84

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	33.3	26.6	42.8	54.0	33.8		33.7	35.3
MIN	I	33.3	24.0	36.0	47.0	32.5		32.5	32.5
MAX	I	33.3	29.0	56.0	67.0	34.8		34.8	43.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	43.0	30.8	43.0	48.6	35.6	34.0	36.4	36.3
MIN	I	43.0	29.0	37.0	44.0	32.6	34.0	32.6	32.6
MAX	I	43.0	34.0	49.0	55.0	37.1	34.0	43.0	42.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	42.0	23.8	38.2	45.2	30.7		32.6	30.7
MIN	I	42.0	22.0	32.0	38.0	29.7		29.7	29.7
MAX	I	42.0	26.0	49.0	53.0	31.7		42.0	31.7
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	39.4	27.1	41.3	49.3	33.4	34.0	34.3	34.1
MIN	I	33.3	23.8	38.2	45.2	30.7	34.0	32.6	30.7
MAX	I	43.0	30.8	43.0	54.0	35.6	34.0	36.4	36.3
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
BONNECHERE                                   CALCULATION DATE: 86/06/18
NAUR    Sodium  mg/L

1983->84
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      0.55        0.45        0.44        0.46          0.446                      0.462        0.46
MIN    I      0.55        0.40        0.40        0.40           0.40                       0.40        0.40
MAX    I      0.55        0.50        0.50        0.55          0.502                       0.55        0.55
N      I      1.00        5.00        5.00        5.00           5.00                       6.00        6.00

1984->85
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      0.53       0.524       0.522       0.526          0.524         0.52         0.524       0.518
MIN    I      0.53        0.51        0.51        0.52          0.511         0.52         0.511        0.49
MAX    I      0.53        0.54        0.54        0.54           0.54         0.52          0.54        0.54
N      I      1.00        5.00        5.00        5.00           5.00         1.00          7.00        7.00

1985->86
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      0.49       0.502       0.498       0.498           0.50                      0.498        0.50
MIN    I      0.49        0.48        0.47        0.47          0.477                      0.477       0.477
MAX    I      0.49        0.52        0.52        0.53          0.523                      0.523       0.523
N      I      1.00        5.00        5.00        5.00           5.00                       6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I     0.523       0.492       0.487       0.495           0.49         0.52         0.495        0.49
MIN    I      0.49        0.45        0.44        0.46          0.446         0.52         0.462        0.46
MAX    I      0.55       0.524       0.522       0.526          0.524         0.52         0.524       0.518
N      I      3.00        3.00        3.00        3.00           3.00         1.00          3.00        3.00



NNHTFR  Ammonium as N  ug/L

1983->84
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      31.0        3.20        14.0        63.4           10.9                       14.3        12.1
MIN    I      31.0        1.00        4.00        29.0           3.25                       3.25        3.25
MAX    I      31.0        9.00        25.0        80.0           15.4                       31.0        15.0
N      I      1.00        5.00        5.00        5.00           5.00                       6.00        6.00

1984->85
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      18.0        3.60        21.6        52.6           11.9         23.0          14.4        16.7
MIN    I      18.0        1.00        9.00        42.0           9.06         23.0          9.06        9.06
MAX    I      18.0        6.00        48.0        61.0           13.4         23.0          23.0        34.0
N      I      1.00        5.00        5.00        5.00           5.00         1.00          7.00        7.00

1985->86
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      34.0        4.80        21.6        31.2           13.8                       17.2        13.8
MIN    I      34.0        1.00        11.0        14.0           8.13                       8.13        8.13
MAX    I      34.0        11.0        37.0        45.0           20.1                       34.0        20.1
N      I      1.00        5.00        5.00        5.00           5.00                       6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER        FALL           ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO           STRAT     OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN   I      27.7        3.87        19.1        49.1           12.2         23.0          15.3        14.2
MIN    I      18.0        3.20        14.0        31.2           10.9         23.0          14.3        12.1
MAX    I      34.0        4.80        21.6        63.4           13.8         23.0          17.2        16.7
N      I      3.00        3.00        3.00        3.00           3.00         1.00          3.00        3.00
```

BONNECHERE
NNOTFR Nitrate and Nitrite as N ug/L

CALCULATION DATE: 86/06/18
DETECTION LIMIT USED: ?

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	78.2	11.2L	48.2	99.2	29.0L		37.2L	33.3L
MIN	I	78.2	2.00	35.0	74.0	19.0		19.0	19.0
MAX	I	78.2	45.0	70.0	142.	55.8		78.2	55.8
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	55.0	10.2	41.0	99.0	26.2	30.0	30.9	38.7
MIN	I	55.0	3.00	15.0	70.0	14.4	30.0	14.4	14.4
MAX	I	55.0	30.0	65.0	135.	46.6	30.0	55.0	110.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	110.	16.8L	70.0	131.	47.1L		57.6L	47.1L
MIN	I	110.	1.00	30.0	105.	28.0		28.0	28.0
MAX	I	110.	60.0	105.	150.	80.6		110.	80.6
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	81.1	12.7	53.1	110.	34.1	30.0	41.9	39.7
MIN	I	55.0	10.2	41.0	99.0	26.2	30.0	30.9	33.3
MAX	I	110.	16.8	70.0	131.	47.1	30.0	57.6	47.1
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NNTKUR Total Kjeldahl Nitrogen ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	198.	182.	180.	249.	185.		187.	187.
MIN	I	198.	175.	160.	220.	179.		179.	179.
MAX	I	198.	205.	195.	280.	192.		198.	195.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	195.	186.	202.	230.	194.	250.	202.	206.
MIN	I	195.	170.	190.	220.	176.	250.	176.	176.
MAX	I	195.	200.	210.	250.	206.	250.	250.	250.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	220.	188.	204.	204.	196.		200.	196.
MIN	I	220.	160.	170.	150.	161.		161.	161.
MAX	I	220.	210.	240.	250.	219.		220.	219.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	204.	185.	195.	228.	192.	250.	197.	196.
MIN	I	195.	182.	180.	204.	185.	250.	187.	187.
MAX	I	220.	188.	204.	249.	196.	250.	202.	206.
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
BONNECHERE                                    CALCULATION DATE: 86/06/18
PH      pH

1983->84
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      5.56         5.79         5.57         5.46          5.70                       5.68      5.67
MIN     I      5.56         5.52         5.48         5.31          5.51                       5.51      5.51
MAX     I      5.56         5.90         5.65         5.69          5.78                       5.78      5.78
N       I      1.00         5.00         5.00         5.00          5.00                       6.00      6.00

1984->85
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      5.55         5.83         5.60         5.41          5.73         5.76          5.71      5.69
MIN     I      5.55         5.75         5.48         5.35          5.67         5.76          5.55      5.41
MAX     I      5.55         5.95         5.65         5.46          5.81         5.76          5.81      5.81
N       I      1.00         5.00         5.00         5.00          5.00         1.00          7.00      7.00

1985->86
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      5.41         5.86         5.55         5.35          5.70                       5.66      5.70
MIN     I      5.41         5.75         5.47         5.22          5.63                       5.41      5.63
MAX     I      5.41         6.01         5.62         5.51          5.80                       5.80      5.80
N       I      1.00         5.00         5.00         5.00          5.00                       6.00      5.00

Overall summary of means
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      5.51         5.83         5.58         5.41          5.71         5.76          5.68      5.69
MIN     I      5.41         5.79         5.55         5.35          5.70         5.76          5.66      5.67
MAX     I      5.56         5.86         5.60         5.46          5.73         5.76          5.71      5.70
N       I      3.00         3.00         3.00         3.00          3.00         1.00          3.00      3.00




PPUT    Total Phosphorous  ug/L

1983->84
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      6.66         3.81         5.93         10.1          4.91                       5.21      5.33
MIN     I      6.66         3.47         5.17         7.25          4.61                       4.61      4.61
MAX     I      6.66         4.20         7.17         14.8          5.33                       6.66      7.40
N       I      1.00         5.00         5.00         5.00          5.00                       6.00      6.00

1984->85
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      7.40         4.12         5.55         7.49          4.83         5.83          5.34      5.28
MIN     I      7.40         3.30         4.97         6.27          4.09         5.83          4.09      4.09
MAX     I      7.40         5.03         6.10         10.1          5.40         5.83          7.40      6.93
N       I      1.00         5.00         5.00         5.00          5.00         1.00          7.00      7.00

1985->86
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      6.93         4.57         5.83         8.39          5.44                       5.68      5.44
MIN     I      6.93         3.40         5.03         7.40          4.72                       4.72      4.72
MAX     I      6.93         5.97         7.10         9.77          6.18                       6.93      6.18
N       I      1.00         5.00         5.00         5.00          5.00                       6.00      5.00

Overall summary of means
        I   SPRING                                                 SUMMER        FALL          ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO          STRAT      OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN    I      7.00         4.17         5.77         8.66          5.06         5.83          5.41      5.35
MIN     I      6.66         3.81         5.55         7.49          4.83         5.83          5.21      5.28
MAX     I      7.40         4.57         5.93         10.1          5.44         5.83          5.68      5.44
N       I      3.00         3.00         3.00         3.00          3.00         1.00          3.00      3.00
```

BONNECHERE CALCULATION DATE: 86/06/16

SIO3UR Silicates mg/L

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	1.26	0.69	1.17	1.45	0.899		0.959	0.959
MIN	1.26	0.51	1.12	1.13	0.741		0.741	0.741
MAX	1.26	1.00	1.29	1.62	1.11		1.26	1.26
N	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	1.26	0.566	1.03	1.31	0.765	0.71	0.828	0.809
MIN	1.26	0.41	0.89	1.24	0.554	0.71	0.554	0.554
MAX	1.26	0.86	1.15	1.35	1.02	0.71	1.26	1.13
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	1.13	0.582	0.916	1.20	0.756		0.819	0.756
MIN	1.13	0.43	0.66	1.12	0.636		0.636	0.636
MAX	1.13	0.83	1.07	1.37	0.958		1.13	0.958
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	1.22	0.613	1.04	1.32	0.807	0.71	0.869	0.842
MIN	1.13	0.566	0.916	1.20	0.756	0.71	0.819	0.756
MAX	1.26	0.69	1.17	1.45	0.899	0.71	0.959	0.959
N	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

SSO4UR Sulphate as SO4 mg/L

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	8.18	7.68	7.57	7.83	7.65		7.73	7.65
MIN	8.18	7.55	7.21	7.59	7.44		7.44	7.44
MAX	8.18	7.84	7.82	7.96	7.82		8.18	7.82
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN		7.61	7.69	7.68	7.64	7.44	7.60	7.55
MIN		7.47	7.47	7.49	7.47	7.44	7.44	7.31
MAX		7.81	7.89	7.91	7.85	7.44	7.85	7.85
N		4.00	4.00	4.00	4.00	1.00	5.00	6.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	7.31	7.19	7.09	7.19	7.16		7.19	7.16
MIN	7.31	6.92	6.76	7.08	6.91		6.91	6.91
MAX	7.31	7.49	7.43	7.45	7.46		7.46	7.46
N	1.00	4.00	4.00	4.00	4.00		5.00	4.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	7.74	7.50	7.45	7.56	7.48	7.44	7.51	7.45
MIN	7.31	7.19	7.09	7.19	7.16	7.44	7.19	7.16
MAX	8.18	7.68	7.69	7.83	7.65	7.44	7.73	7.65
N	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BIG PORCUPINE

Calculation date: 86/06/18

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	830521	830521	830521	831101	830425	830601
END	830520	831031	831031	831031	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	840521	840521	840521	841106	840425	840601
END	840520	841105	841105	841105	841105	841214	841214	850531

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	850513	850513	850513	851120	850425	850601
END	850512	851119	851119	851119	851119	851204	851204	860531

ALKTI Alkalinity, TIA as CaCO3 mg/L

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.84	0.914	1.15	1.49	1.06		1.01	0.871
MIN	0.84	0.78	0.95	0.95	0.924		0.84	0.13
MAX	0.84	1.04	1.35	2.18	1.19		1.19	1.19
N	1.00	5.00	4.00	5.00	4.00		5.00	5.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.13	0.923	1.18	1.58	1.07	1.49	0.993	1.06
MIN	0.13	0.64	0.86	0.87	0.768	1.49	0.13	0.58
MAX	0.13	1.13	1.74	2.37	1.35	1.49	1.49	1.49
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.58	1.03	1.15	1.12	1.07		0.984	1.07
MIN	0.58	0.88	1.00	0.86	0.922		0.58	0.9[illegible]
MAX	0.58	1.19	1.52	1.51	1.27		1.27	1.27
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.517	0.954	1.16	1.40	1.06	1.49	0.997	0.998
MIN	0.13	0.914	1.15	1.12	1.06	1.49	0.984	0.871
MAX	0.84	1.03	1.18	1.58	1.07	1.49	1.01	1.07
N	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BIG PORCUPINE　　　　CALCULATION DATE: 86/06/16

ALUT　Aluminum　ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1 -> MAY 31
MEAN	I	7.00	58.5	20.5	28.5	43.1		35.9	42.3
MIN	I	7.00	2.00	10.0	25.0	5.83		5.83	5.83
MAX	I	7.00	201.	27.0	33.0	126.		126.	126.
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	39.0	11.2	20.4	26.6	16.2	14.0	19.2	17.3
MIN	I	39.0	7.00	13.0	20.0	9.47	14.0	9.47	9.47
MAX	I	39.0	22.0	35.0	33.0	29.0	14.0	39.0	29.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.0	16.8	20.8	37.8	22.5		23.1	22.5
MIN	I	26.0	4.00	5.00	35.0	11.5		11.5	11.5
MAX	I	26.0	30.0	34.0	41.0	29.2		29.2	29.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	24.0	28.8	20.6	31.0	27.3	14.0	26.0	27.4
MIN	I	7.00	11.2	20.4	26.6	16.2	14.0	19.2	17.3
MAX	I	39.0	58.5	20.8	37.8	43.1	14.0	35.9	42.3
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

CAUR　Calcium　mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.40	2.14	2.12	2.20	2.13		2.18	2.15
MIN	I	2.40	1.90	1.80	2.00	1.96		1.96	1.96
MAX	I	2.40	2.30	2.30	2.40	2.30		2.40	2.30
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.22	2.18	2.25	2.25	2.21	2.13	2.20	2.19
MIN	I	2.22	2.11	2.13	2.18	2.13	2.13	2.13	2.13
MAX	I	2.22	2.24	2.36	2.35	2.28	2.13	2.28	2.28
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.17	2.15	2.19	2.11	2.14		2.15	2.14
MIN	I	2.17	2.05	2.13	1.71	2.09		2.09	2.09
MAX	I	2.17	2.21	2.26	2.31	2.24		2.24	2.24
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.26	2.16	2.19	2.19	2.16	2.13	2.18	2.16
MIN	I	2.17	2.14	2.12	2.11	2.13	2.13	2.15	2.14
MAX	I	2.40	2.18	2.25	2.25	2.21	2.13	2.20	2.19
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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BIG PORCUPINE                                      CALCULATION DATE: 86/06/18
CLIDUR  Chloride  mg/L                             DETECTION LIMIT USED:.05

1983->84
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.30       0.276       0.262        0.29          0.273                     0.278       0.263
MIN   I      0.30        0.26        0.25        0.23          0.267                     0.267        0.21
MAX   I      0.30        0.29        0.27        0.31          0.281                      0.30       0.281
N     I      1.00        5.00        5.00        5.00           5.00                      6.00        6.00

1984->85
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.21       0.261        0.30       0.262          0.272         0.26        0.262        0.27
MIN   I      0.21        0.13        0.25        0.20          0.197         0.26        0.197       0.197
MAX   I      0.21        0.37        0.35        0.37           0.36         0.26         0.36        0.36
N     I      1.00        5.00        5.00        5.00           5.00         1.00         7.00        7.00

1985->86
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.27       0.19L       0.224       0.202         0.195L                    0.207L      0.195L
MIN   I      0.27        0.05        0.19        0.10         0.0761                    0.0761      0.0761
MAX   I      0.27        0.25        0.26        0.25          0.241                      0.27       0.241
N     I      1.00        5.00        5.00        5.00           5.00                      6.00        5.00

Overall summary of means
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.26       0.242       0.262       0.251          0.247         0.26        0.249       0.243
MIN   I      0.21        0.19       0.224       0.202          0.195         0.26        0.207       0.195
MAX   I      0.30       0.276        0.30        0.29          0.273         0.26        0.278        0.27
N     I      3.00        3.00        3.00        3.00           3.00         1.00         3.00        3.00



COLTR   Colour (true)

1983->84
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      7.00        5.80        7.40        14.8           6.98                      6.98        7.15
MIN   I    · 7.00        2.00        4.00        9.00           4.41                      4.41        4.41
MAX   I      7.00        8.00        10.0        34.0           8.86                      8.86        8.86
N     I      1.00        5.00        5.00        5.00           5.00                      6.00        6.00

1984->85
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      8.00        8.00        7.60        14.8           8.54         10.0         8.67        8.96
MIN   I      8.00        3.00        2.00        2.00           3.28         10.0         3.28        3.28
MAX   I      8.00        13.0        11.0        24.0           11.9         10.0         11.9        11.9
N     I      1.00        5.00        5.00        5.00           5.00         1.00         7.00        7.00

1985->86
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      10.0        5.20        7.00        10.2           6.54                      7.11        6.54
MIN   I      10.0        4.00        3.00        7.00           4.60                      4.60        4.60
MAX   I      10.0        7.00        10.0        15.0           7.85                      10.0        7.85
N     I      1.00        5.00        5.00        5.00           5.00                      6.00        5.00

Overall summary of means
      I    SPRING                                              SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN         EPI        META        HYPO          STRAT     OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      8.33        6.33        7.33        13.3           7.35         10.0         7.59        7.55
MIN   I      7.00        5.20        7.00        10.2           6.54         10.0         6.98        6.54
MAX   I      10.0        8.00        7.60        14.8           8.54         10.0         8.67        8.96
N     I      3.00        3.00        3.00        3.00           3.00         1.00         3.00        3.00
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BIG PORCUPINE CALCULATION DATE: 86/06/18
COND25 Conductivity (25 C)

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.0	25.4	26.0	26.7	25.7		25.8	25.8
MIN	I	26.0	25.0	25.0	26.0	25.2		25.2	25.2
MAX	I	26.0	26.2	26.9	27.3	26.5		26.5	26.5
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	25.9	24.9	25.6	26.7	25.3	25.1	25.4	25.3
MIN	I	25.9	24.5	24.8	25.5	25.0	25.1	25.0	25.0
MAX	I	25.9	25.1	26.4	27.1	25.7	25.1	25.9	25.7
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	25.3	24.5	25.1	26.0	24.9		25.0	24.9
MIN	I	25.3	24.0	24.3	25.6	24.6		24.6	24.6
MAX	I	25.3	24.8	26.2	26.6	25.0		25.3	25.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	25.7	25.0	25.6	26.4	25.3	25.1	25.4	25.3
MIN	I	25.3	24.5	25.1	26.0	24.9	25.1	25.0	24.9
MAX	I	26.0	25.4	26.0	26.7	25.7	25.1	25.8	25.8
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

DIC Dissolved Inorganic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.64	0.35	0.768	1.74	0.597		0.605	0.616
MIN	I	0.64	0.28	0.53	1.04	0.515		0.515	0.515
MAX	I	0.64	0.40	1.17	2.40	0.718		0.718	0.718
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.71	0.33	0.78	1.89	0.634	0.94	0.689	0.723
MIN	I	0.71	0.26	0.51	1.19	0.485	0.94	0.485	0.485
MAX	I	0.71	0.46	1.49	2.94	0.872	0.94	0.94	0.95
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.95	0.348	0.846	1.63	0.67		0.717	0.67
MIN	I	0.95	0.30	0.31	1.13	0.61		0.61	0.61
MAX	I	0.95	0.48	1.64	2.31	0.829		0.95	0.829
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.767	0.343	0.798	1.75	0.634	0.94	0.67	0.67
MIN	I	0.64	0.33	0.768	1.63	0.597	0.94	0.605	0.616
MAX	I	0.95	0.35	0.846	1.89	0.67	0.94	0.717	0.723
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BIG PORCUPINE CALCULATION DATE: 86/06/18

DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.00	2.06	1.94	1.86	2.00		2.00	2.05
MIN	I	2.00	1.90	1.80	1.70	1.88		1.88	1.88
MAX	I	2.00	2.30	2.10	2.10	2.24		2.24	2.30
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.30	2.20	2.10	1.94	2.14	2.20	2.17	2.14
MIN	I	2.30	1.70	2.00	1.90	1.86	2.20	1.86	1.86
MAX	I	2.30	2.40	2.30	2.00	2.31	2.20	2.31	2.31
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.10	2.04	2.10	1.96	2.04		2.05	2.04
MIN	I	2.10	1.90	1.80	1.70	1.87		1.87	1.87
MAX	I	2.10	2.20	2.40	2.20	2.24		2.24	2.24
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.13	2.10	2.05	1.92	2.06	2.20	2.07	2.08
MIN	I	2.00	2.04	1.94	1.86	2.00	2.20	2.00	2.04
MAX	I	2.30	2.20	2.10	1.96	2.14	2.20	2.17	2.14
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

FEUT Iron ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	120.	27.0	125.	346.	85.0		90.8	93.3
MIN	I	120.	15.0	15.0	60.0	26.0		26.0	26.0
MAX	I	120.	40.0	470.	965.	210.		210.	210.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	135.	39.6	52.8	305.	76.4	365.	126.	128.
MIN	I	135.	20.0	45.0	80.0	43.7	365.	43.7	43.7
MAX	I	135.	55.0	60.0	790.	144.	365.	365.	365.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	150.	29.6	43.0	175.	56.3		71.9	56.3
MIN	I	150.	9.00	7.00	100.	39.9		39.9	39.9
MAX	I	150.	64.0	69.0	380.	77.8		150.	77.8
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	135.	32.1	73.6	275.	72.6	365.	96.3	92.6
MIN	I	120.	27.0	43.0	175.	56.3	365.	71.9	56.3
MAX	I	150.	39.6	125.	346.	85.0	365.	126.	128.
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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BIG PORCUPINE                                   CALCULATION DATE: 86/06/18
FFIDUR  Fluoride  ug/L

1983->84
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I                     45.1         43.5         44.1        44.4                       44.4        44.6
MIN     I                     43.5         42.0         41.9        42.5                       42.5        42.5
MAX     I                     48.0         46.0         47.1        47.1                       47.1        47.1
N       I                     4.00         4.00         4.00        4.00                       4.00        5.00

1984->85
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     45.7            45.7         45.4         47.5        45.8         48.4         46.2        45.8
MIN     I     45.7            39.1         43.4         43.2        43.1         48.4         43.1        42.8
MAX     I     45.7            48.3         47.7         50.4        47.9         48.4         48.4        48.4
N       I     1.00            5.00         5.00         5.00        5.00         1.00         7.00        7.00

1985->86
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     42.8            47.0         45.0         44.6        46.1                       45.6        46.1
MIN     I     42.8            45.1         43.5         43.4        44.4                       42.8        44.4
MAX     I     42.8            48.7         48.3         46.1        47.9                       47.9        47.9
N       I     1.00            5.00         5.00         5.00        5.00                       6.00        5.00

Overall summary of means
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     44.3            46.0         44.6         45.4        45.5         48.4         45.4        45.5
MIN     I     42.8            45.1         43.5         44.1        44.4         48.4         44.4        44.6
MAX     I     45.7            47.0         45.4         47.5        46.1         48.4         46.2        46.1
N       I     2.00            3.00         3.00         3.00        3.00         1.00         3.00        3.00



KKUR    Potassium  mg/L

1983->84
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     0.42           0.372        0.368        0.38        0.371                      0.379       0.367
MIN     I     0.42            0.34         0.34        0.36        0.342                      0.342       0.342
MAX     I     0.42            0.38         0.38        0.40         0.38                       0.42        0.35
N       I     1.00            5.00         5.00        5.00         5.00                       6.00        6.00

1984->85
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     0.35           0.353        0.364       0.376        0.359         0.74        0.412       0.415
MIN     I     0.35            0.33         0.36        0.36        0.345         0.74        0.345       0.345
MAX     I     0.35            0.37         0.37        0.39        0.372         0.74         0.74        0.74
N       I     1.00            5.00         5.00        5.00         5.00         1.00         7.00        7.00

1985->86
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     0.37           0.406         0.39       0.388        0.399                      0.395       0.399
MIN     I     0.37            0.35         0.36        0.36        0.354                      0.354       0.354
MAX     I     0.37            0.53         0.47        0.43        0.498                      0.498       0.498
N       I     1.00            5.00         5.00        5.00         5.00                       6.00        5.00

Overall summary of means
        I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
        I   OVERTURN          EPI         META         HYPO       STRAT      OVERTURN         FREE      MAY 31
----------------------------------------------------------------------------------------------------------------
MEAN    I     0.38           0.377        0.374       0.381        0.377         0.74        0.395       0.394
MIN     I     0.35           0.353        0.364       0.376        0.359         0.74        0.379       0.367
MAX     I     0.42           0.406         0.39       0.388        0.399         0.74        0.412       0.415
N       I     3.00            3.00         3.00        3.00         3.00         1.00         3.00        3.00
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BIG PORCUPINE                                         CALCULATION DATE: 86/06/18
MGUR    Magnesium  mg/L

1983->84
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.54      0.564       0.548       0.556          0.556                     0.553       0.568
MIN   I      0.54       0.52        0.52        0.52           0.52                      0.52        0.52
MAX   I      0.54       0.60        0.58        0.58          0.591                     0.591        0.63
N     I      1.00       5.00        5.00        5.00           5.00                      6.00        6.00

1984->85
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.63      0.597       0.608        0.61          0.603        0.57         0.602       0.592
MIN   I      0.63       0.58        0.58        0.59          0.581        0.57          0.57        0.56
MAX   I      0.63       0.63        0.63        0.64          0.631        0.57         0.631       0.631
N     I      1.00       5.00        5.00        5.00           5.00        1.00          7.00        7.00

1985->86
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.56       0.58       0.596       0.578          0.582                     0.578       0.582
MIN   I      0.56       0.57        0.58        0.54          0.568                      0.56       0.568
MAX   I      0.56       0.60        0.61        0.61          0.604                     0.604       0.604
N     I      1.00       5.00        5.00        5.00           5.00                      6.00        5.00

Overall summary of means
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I     0.577       0.58       0.584       0.581           0.58        0.57         0.578       0.581
MIN   I      0.54      0.564       0.548       0.556          0.556        0.57         0.553       0.568
MAX   I      0.63      0.597       0.608        0.61          0.603        0.57         0.602       0.592
N     I      3.00       3.00        3.00        3.00           3.00        1.00          3.00        3.00



MNUT    Manganese   ug/L

1983->84
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      38.0       21.8        88.0        144.           52.2                      49.9        51.4
MIN   I      38.0       8.00        21.0        59.0           21.6                      21.6        21.6
MAX   I      38.0       41.0        220.        270.           101.                      101.        101.
N     I      1.00       5.00        5.00        5.00           5.00                      6.00        6.00

1984->85
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      47.0       20.2        59.4        129.           42.2        95.0          50.4        53.3
MIN   I      47.0       4.00        32.0        40.0           27.0        95.0          27.0        27.0
MAX   I      47.0       41.0        136.        255.           68.0        95.0          95.0        95.0
N     I      1.00       5.00        5.00        5.00           5.00        1.00          7.00        7.00

1985->86
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      67.0       29.8        65.0        107.           48.2                      51.4        48.2
MIN   I      67.0       10.0        10.0        23.0           37.7                      37.7        37.7
MAX   I      67.0       46.0        140.        200.           61.1                      67.0        61.1
N     I      1.00       5.00        5.00        5.00           5.00                      6.00        5.00

Overall summary of means
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO          STRAT    OVERTURN          FREE      MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      50.7       23.9        70.8        126.           47.5        95.0          50.5        51.0
MIN   I      38.0       20.2        59.4        107.           42.2        95.0          49.9        48.2
MAX   I      67.0       29.8        88.0        144.           52.2        95.0          51.4        53.3
N     I      3.00       3.00        3.00        3.00           3.00        1.00          3.00        3.00
```

BIG PORCUPINE CALCULATION DATE: 86/06/18

NAUR Sodium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.65	0.54	0.52	0.53	0.531		0.551	0.547
MIN	I	0.65	0.50	0.45	0.50	0.47		0.47	0.47
MAX	I	0.65	0.60	0.60	0.55	0.599		0.65	0.63
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.63	0.571	0.588	0.586	0.579	0.59	0.588	0.576
MIN	I	0.63	0.49	0.58	0.57	0.529	0.59	0.529	0.529
MAX	I	0.63	0.61	0.60	0.61	0.609	0.59	0.63	0.609
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.55	0.586	0.584	0.562	0.579		0.574	0.579
MIN	I	0.55	0.54	0.54	0.52	0.547		0.547	0.547
MAX	I	0.55	0.68	0.63	0.59	0.647		0.647	0.647
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.61	0.566	0.564	0.559	0.563	0.59	0.571	0.567
MIN	I	0.55	0.54	0.52	0.53	0.531	0.59	0.551	0.547
MAX	I	0.65	0.586	0.588	0.586	0.579	0.59	0.586	0.579
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NNHTFR Ammonium as N ug/L DETECTION LIMIT USED:1

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	11.0	3.40L	11.6	30.6	9.07L		9.39L	9.06L
MIN	I	11.0	1.00	4.00	10.0	5.44		5.44	5.44
MAX	I	11.0	10.0	18.0	58.0	12.7		12.7	12.7
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	9.00	2.80	12.0	57.2	12.8	11.0	12.0	12.7
MIN	I	9.00	1.00	2.00	4.00	10.5	11.0	9.00	10.5
MAX	I	9.00	6.00	27.0	80.0	16.4	11.0	16.4	16.4
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	14.0	4.00	9.60	13.8	6.94		8.12	6.94
MIN	I	14.0	3.00	2.00	5.00	5.11		5.11	5.11
MAX	I	14.0	6.00	23.0	21.0	11.1		14.0	11.1
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	11.3	3.40	11.1	33.9	9.61	11.0	9.84	9.58
MIN	I	9.00	2.80	9.60	13.8	6.94	11.0	8.12	6.94
MAX	I	14.0	4.00	12.0	57.2	12.8	11.0	12.0	12.7
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BIG PORCUPINE
NNOTFR Nitrate and Nitrite as N ug/L

CALCULATION DATE: 86/06/18
DETECTION LIMIT USED:2

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	96.0	19.4L	55.0	113.	39.3L		48.8L	45.3L
MIN	I	96.0	2.00	33.0	33.0	15.3		15.3	15.3
MAX	I	96.0	59.0	72.0	220.	72.4		96.0	75.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	75.0	9.80	31.0	94.0	29.2	40.0	37.3	48.[illegible]
MIN	I	75.0	3.00	5.00	50.0	17.4	40.0	17.4	17.4
MAX	I	75.0	35.0	80.0	140.	57.3	40.0	75.0	150.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	150.	58.4	88.0	159.	80.3		92.0	80.3
MIN	I	150.	7.00	10.0	90.0	28.4		28.4	28.4
MAX	I	150.	115.	130.	215.	125.		150.	125.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	107.	29.2	58.0	122.	49.6	40.0	59.3	57.9
MIN	I	75.0	9.80	31.0	94.0	29.2	40.0	37.3	45.3
MAX	I	150.	58.4	88.0	159.	80.3	40.0	92.0	80.3
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NNTKUR Total Kjeldahl Nitrogen ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	140.	144.	151.	175.	150.		148.	148.
MIN	I	140.	135.	140.	155.	141.		140.	140.
MAX	I	140.	160.	180.	190.	169.		169.	169.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	140.	164.	174.	200.	174.	190.	171.	174.
MIN	I	140.	150.	150.	160.	156.	190.	140.	156.
MAX	I	140.	180.	220.	220.	203.	190.	203.	203.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	160.	192.	182.	170.	186.		181.	186.
MIN	I	160.	160.	150.	140.	156.		156.	156.
MAX	I	160.	270.	230.	210.	233.		233.	233.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	147.	167.	169.	182.	170.	190.	167.	169.
MIN	I	140.	144.	151.	170.	150.	190.	148.	148.
MAX	I	160.	192.	182.	200.	186.	190.	181.	186.
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BIG PORCUPINE CALCULATION DATE: 86/06/16
PH pH

1983->84

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	5.94	6.24	5.97	5.75	6.11		6.08	6.04
MIN I	5.94	6.04	5.85	5.66	5.96		5.94	5.68
MAX I	5.94	6.35	6.01	5.82	6.20		6.20	6.20
N I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	5.68	6.23	6.04	5.79	6.12	6.06	6.05	6.05
MIN I	5.68	6.03	5.93	5.76	5.99	6.06	5.68	5.66
MAX I	5.68	6.33	6.11	5.86	6.19	6.06	6.19	6.19
N I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	5.66	6.27	5.94	5.61	6.08		6.01	6.08
MIN I	5.66	6.13	5.74	5.46	5.98		5.66	5.98
MAX I	5.66	6.40	6.31	5.73	6.22		6.22	6.22
N I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	5.76	6.24	5.98	5.72	6.10	6.06	6.05	6.06
MIN I	5.66	6.23	5.94	5.61	6.08	6.06	6.01	6.04
MAX I	5.94	6.27	6.04	5.79	6.12	6.06	6.08	6.08
N I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

PPUT Total Phosphorous ug/L

1983->84

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	6.83	3.15	4.91	6.33	4.28		4.71	4.53
MIN I	6.83	2.70	3.87	5.15	3.31		3.31	3.31
MAX I	6.83	3.60	7.77	7.57	6.45		6.83	6.45
N I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN I	5.77	4.02	4.67	5.74	4.41	5.70	4.79	4.64
MIN I	5.77	3.47	4.10	4.60	3.97	5.70	3.97	3.97
MAX I	5.77	4.30	5.73	6.83	4.86	5.70	5.77	5.70
N I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	4.77	3.37	4.76	5.91	4.14		4.27	4.14
MIN I	4.77	2.77	3.87	5.17	3.73		3.73	3.73
MAX I	4.77	3.80	6.03	6.30	4.36		4.77	4.36
N I	1.00	5.00	5.00	4.00	4.00		5.00	4.00

Overall summary of means

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	5.79	3.52	4.78	5.99	4.28	5.70	4.59	4.44
MIN I	4.77	3.15	4.67	5.74	4.14	5.70	4.27	4.14
MAX I	6.83	4.02	4.91	6.33	4.41	5.70	4.79	4.64
N I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

BIG PORCUPINE CALCULATION DATE: 86/06/18

SIO3UR Silicates mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.97	0.79	0.962	1.25	0.883		0.897	0.921
MIN	I	0.97	0.60	0.79	1.01	0.705		0.705	0.705
MAX	I	0.97	0.92	1.42	1.54	0.993		0.993	1.11
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.11	0.576	0.76	1.24	0.713	0.67	0.764	0.75
MIN	I	1.11	0.03	0.60	1.08	0.365	0.67	0.365	0.365
MAX	I	1.11	0.93	0.93	1.38	0.948	0.67	1.11	1.01
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.01	0.758	0.786	1.15	0.825		0.856	0.825
MIN	I	1.01	0.51	0.67	1.04	0.635		0.635	0.635
MAX	I	1.01	0.94	0.94	1.31	0.963		1.01	0.963
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.03	0.708	0.836	1.21	0.807	0.67	0.839	0.832
MIN	I	0.97	0.576	0.76	1.15	0.713	0.67	0.764	0.75
MAX	I	1.11	0.79	0.962	1.25	0.883	0.67	0.897	0.921
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

SSO4UR Sulphate as SO4 mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN	I	7.56	7.49	7.30	7.14	7.40		7.42	7.40
MIN	I	7.56	7.39	6.78	6.65	7.13		7.13	7.13
MAX	I	7.56	7.58	7.56	7.60	7.57		7.57	7.57
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		7.27	7.25	6.95	7.24	6.70	7.10	7.10
MIN	I		7.17	7.14	6.79	7.10	6.70	6.70	6.70
MAX	I		7.48	7.46	7.27	7.41	6.70	7.41	7.41
N	I		3.00	4.00	4.00	3.00	1.00	4.00	5.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.07	7.20	7.20	7.12	7.18		7.16	7.18
MIN	I	7.07	6.87	6.77	6.83	6.84		6.84	6.84
MAX	I	7.07	7.65	7.81	7.52	7.65		7.65	7.65
N	I	1.00	4.00	4.00	4.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.32	7.32	7.25	7.07	7.27	6.70	7.23	7.22
MIN	I	7.07	7.20	7.20	6.95	7.18	6.70	7.10	7.10
MAX	I	7.56	7.49	7.30	7.14	7.40	6.70	7.42	7.40
N	I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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CROWN
                                      Calculation date: 86/06/18

1983->84
          SPRING                                 SUMMER     FALL       ICE  JUNE 1->
         OVERTURN      EPI      META      HYPO    STRAT  OVERTURN     FREE    MAY 31
------------------------------------------------------------------------------------
 START    830425    830521    830521    830521    830521    831101    830425    830601
   END    830520    831031    831031    831031    831031    831118    831118    840531

1984->85
          SPRING                                 SUMMER     FALL       ICE  JUNE 1->
         OVERTURN      EPI      META      HYPO    STRAT  OVERTURN     FREE    MAY 31
------------------------------------------------------------------------------------
 START    840424    840521    840521    840521    840521    841106    840424    840601
   END    840520    841105    841105    841105    841105    841214    841214    850531

1985->86
          SPRING                                 SUMMER     FALL       ICE  JUNE 1->
         OVERTURN      EPI      META      HYPO    STRAT  OVERTURN     FREE    MAY 31
------------------------------------------------------------------------------------
 START    850425    850513    850513    850513    850513    851120    850425    850601
   END    850512    851119    851119    851119    851119    851204    851204    860531


ALKTI   Alkalinity, TIA as CaCO3  mg/L

1983->84
     I   SPRING                                      SUMMER      FALL         ICE    JUNE 1->
     I  OVERTURN        EPI        META       HYPO     STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------
MEAN I       0.68      0.724      0.796       1.03      0.746       0.93      0.763      0.768
MIN  I       0.68       0.59       0.61       0.57      0.612       0.93      0.612      0.612
MAX  I       0.68       0.87       1.17       1.86       0.94       0.93       0.94       0.94
N    I       1.00       5.00       5.00       5.00       5.00       1.00       7.00       7.00

1984->85
     I   SPRING                                      SUMMER      FALL         ICE    JUNE 1->
     I  OVERTURN        EPI        META       HYPO     STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------
MEAN I       0.72      0.786       1.01       1.10      0.836       1.01      0.845      0.803
MIN  I       0.72       0.69       0.77       0.50      0.718       1.01      0.718       0.43
MAX  I       0.72       0.93       1.46       1.60      0.989       1.01       1.01       1.01
N    I       1.00       5.00       5.00       5.00       5.00       1.00       7.00       7.00

1985->86
     I   SPRING                                      SUMMER      FALL         ICE    JUNE 1->
     I  OVERTURN        EPI        META       HYPO     STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------
MEAN I       0.43      0.786       1.09       1.09      0.852                 0.782      0.852
MIN  I       0.43       0.63       0.71       0.60      0.699                  0.43      0.699
MAX  I       0.43       0.98       1.53       2.04       1.06                  1.06       1.06
N    I       1.00       5.00       5.00       5.00       5.00                  6.00       5.00

Overall summary of means
     I   SPRING                                      SUMMER      FALL         ICE    JUNE 1->
     I  OVERTURN        EPI        META       HYPO     STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------
MEAN I       0.61      0.765      0.965       1.07      0.811       0.97      0.796      0.808
MIN  I       0.43      0.724      0.796       1.03      0.746       0.93      0.763      0.768
MAX  I       0.72      0.786       1.09       1.10      0.852       1.01      0.845      0.852
N    I       3.00       3.00       3.00       3.00       3.00       2.00       3.00       3.00
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CROWN                                             CALCULATION DATE: 86/06/18
ALUT    Aluminum  ug/L                            DETECTION LIMIT USED:1

1983->84
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      29.0        11.8        17.3        29.3        14.6        11.0          16.4        15.2
MIN   I      29.0        2.00        11.0        24.0        5.22        11.0          5.22        5.22
MAX   I      29.0        20.0        24.0        33.0        20.4        11.0          29.0        29.0
N     I      1.00        4.00        4.00        4.00        4.00        1.00          6.00        6.00

1984->85
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      22.0        9.80        16.6        20.2        11.7        10.0          12.9        11.4
MIN   I      22.0        7.00        10.0        3.00        7.83        10.0          7.83        7.83
MAX   I      22.0        15.0        19.0        26.0        17.2        10.0          22.0        17.2
N     I      1.00        5.00        5.00        5.00        5.00        1.00          7.00        7.00

1985->86
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      11.0        8.75L       17.8        29.0        11.8L                     11.7L       11.8L
MIN   I      11.0        1.00        12.0        23.0        5.34                      5.34        5.34
MAX   I      11.0        18.0        21.0        38.0        19.4                      19.4        19.4
N     I      1.00        4.00        4.00        4.00        4.00                      5.00        4.00

Overall summary of means
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      20.7        10.1        17.2        26.2        12.7        10.5          13.7        12.8
MIN   I      11.0        8.75        16.6        20.2        11.7        10.0          11.7        11.4
MAX   I      29.0        11.8        17.8        29.3        14.6        11.0          16.4        15.2
N     I      3.00        3.00        3.00        3.00        3.00        2.00          3.00        3.00



CAUR    Calcium  mg/L

1983->84
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      2.20        2.08        2.06        2.06        2.07        2.00          2.08        2.09
MIN   I      2.20        1.90        1.90        1.90        1.90        2.00          1.90        1.90
MAX   I      2.20        2.20        2.20        2.20        2.20        2.00          2.20        2.20
N     I      1.00        5.00        5.00        5.00        5.00        1.00          7.00        7.00

1984->85
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      2.26        2.12        2.14        2.19        2.12        2.15          2.15        2.13
MIN   I      2.26        2.08        2.04        2.10        2.07        2.15          2.07        2.07
MAX   I      2.26        2.15        2.25        2.30        2.16        2.15          2.26        2.16
N     I      1.00        5.00        5.00        5.00        5.00        1.00          7.00        7.00

1985->86
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      2.13        2.04        2.05        2.11        2.05                      2.06        2.05
MIN   I      2.13        1.98        1.84        2.02        1.96                      1.96        1.96
MAX   I      2.13        2.16        2.15        2.18        2.16                      2.16        2.16
N     I      1.00        5.00        5.00        5.00        5.00                      6.00        5.00

Overall summary of means
     I    SPRING                                                 SUMMER       FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I      2.20        2.08        2.08        2.12        2.08        2.08          2.10        2.09
MIN   I      2.13        2.04        2.05        2.06        2.05        2.00          2.06        2.05
MAX   I      2.26        2.12        2.14        2.19        2.12        2.15          2.15        2.13
N     I      3.00        3.00        3.00        3.00        3.00        2.00          3.00        3.00
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CROWN                                                       CALCULATION DATE: 86/06/16
CLIDUR  Chloride  mg/L                                      DETECTION LIMIT USED:.05

1983->84
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       0.30        0.274        0.256        0.228L        0.264L         0.29        0.273L        0.271L
MIN   I       0.30         0.15         0.19          0.05         0.168         0.29         0.168         0.168
MAX   I       0.30         0.36         0.32          0.35         0.344         0.29         0.344         0.344
N     I       1.00         5.00         5.00          5.00          5.00         1.00          7.00          7.00

1984->85
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       0.29        0.271         0.28         0.278         0.272         0.26         0.273         0.272
MIN   I       0.29         0.25         0.26          0.26         0.252         0.26         0.252         0.252
MAX   I       0.29        0.285         0.31          0.29         0.285         0.26          0.29         0.285
N     I       1.00         5.00         5.00          5.00          5.00         1.00          7.00          7.00

1985->86
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       0.28        0.235        0.233          0.26         0.237                      0.246         0.237
MIN   I       0.28         0.22         0.22          0.24         0.222                      0.222         0.222
MAX   I       0.28         0.26         0.24          0.29         0.252                       0.28         0.252
N     I       1.00         4.00         4.00          4.00          4.00                       5.00          4.00

Overall summary of means
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       0.29         0.26        0.256         0.255         0.258        0.275         0.264          0.26
MIN   I       0.28        0.235        0.233         0.228         0.237         0.26         0.246         0.237
MAX   I       0.30        0.274         0.28         0.278         0.272         0.29         0.273         0.272
N     I       3.00         3.00         3.00          3.00          3.00         2.00          3.00          3.00



COLTR   Colour (true)

1983->84
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       5.00         4.80         6.00          10.6          5.29         9.00          5.78          5.50
MIN   I       5.00         2.00         4.00          4.00          2.76         9.00          2.76          2.76
MAX   I       5.00         6.00         8.00          19.0          7.05         9.00          9.00          9.00
N     I       1.00         5.00         5.00          5.00          5.00         1.00          7.00          7.00

1984->85
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       3.00         6.90         6.00          7.60          6.19         1.00          4.99          4.99
MIN   I       3.00         1.00         0.00          0.00          1.70         1.00          1.00          1.00
MAX   I       3.00         15.5         12.0          16.0          13.7         1.00          13.7          13.7
N     I       1.00         5.00         5.00          5.00          5.00         1.00          7.00          7.00

1985->86
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       3.00         3.20         5.40          9.20          4.12                       3.93          4.12
MIN   I       3.00         0.00         3.00          4.00          1.82                       1.82          1.82
MAX   I       3.00         5.00         7.00          23.0          5.83                       5.83          5.83
N     I       1.00         5.00         5.00          5.00          5.00                       6.00          5.00

Overall summary of means
      I     SPRING                                                SUMMER         FALL           ICE      JUNE 1->
      I   OVERTURN         EPI          META          HYPO         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------------------------------------------------
MEAN  I       3.67         4.97         5.80          9.13          5.20         5.00          4.90          4.87
MIN   I       3.00         3.20         5.40          7.60          4.12         1.00          3.93          4.12
MAX   I       5.00         6.90         6.00          10.6          6.19         9.00          5.78          5.50
N     I       3.00         3.00         3.00          3.00          3.00         2.00          3.00          3.00
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CROWN CALCULATION DATE: 86/06/18

COND25 Conductivity (25 C)

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	25.0	25.0	25.3	26.3	25.1	24.4	25.0	25.0
MIN	25.0	25.0	25.0	26.0	25.1	24.4	24.4	24.4
MAX	25.0	25.0	26.4	27.0	25.2	24.4	25.2	25.2
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	25.1	24.2	24.9	25.8	24.4	23.9	24.5	24.4
MIN	25.1	24.0	24.3	25.1	24.3	23.9	23.9	23.9
MAX	25.1	24.4	25.9	26.5	24.6	23.9	25.1	24.6
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	24.4	23.6	24.1	24.8	23.8		23.9	23.8
MIN	24.4	23.3	23.7	24.3	23.5		23.5	23.5
MAX	24.4	23.8	25.2	26.1	24.0		24.4	24.0
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	24.8	24.3	24.8	25.6	24.4	24.2	24.4	24.4
MIN	24.4	23.6	24.1	24.8	23.8	23.9	23.9	23.8
MAX	25.1	25.0	25.3	26.3	25.1	24.4	25.0	25.0
N	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

DIC Dissolved Inorganic Carbon mg/L

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.62	0.312	0.862	1.29	0.486	0.52	0.51	0.498
MIN	0.62	0.26	0.50	0.80	0.42	0.52	0.42	0.42
MAX	0.62	0.42	2.04	1.76	0.644	0.52	0.644	0.644
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.54	0.308	0.858	1.63	0.49	0.53	0.503	0.525
MIN	0.54	0.23	0.46	0.88	0.421	0.53	0.421	0.421
MAX	0.54	0.42	1.81	2.63	0.593	0.53	0.593	0.69
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.69	0.304	0.752	1.39	0.456		0.495	0.456
MIN	0.69	0.21	0.37	0.94	0.343		0.343	0.343
MAX	0.69	0.47	1.75	2.46	0.626		0.69	0.626
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.617	0.308	0.824	1.44	0.477	0.525	0.503	0.493
MIN	0.54	0.304	0.752	1.29	0.456	0.52	0.495	0.456
MAX	0.69	0.312	0.862	1.63	0.49	0.53	0.51	0.525
N	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

CROWN CALCULATION DATE: 86/06/18
DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.60	1.90	1.68	1.64	1.82	1.80	1.78	1.81
MIN	I	1.60	1.70	1.60	1.50	1.61	1.80	1.60	1.61
MAX	I	1.60	2.00	1.80	1.80	1.96	1.80	1.96	1.96
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.80	2.11	1.84	1.68	2.02	2.00	1.98	1.98
MIN	I	1.80	2.00	1.70	1.60	1.87	2.00	1.80	1.80
MAX	I	1.80	2.20	1.90	1.70	2.15	2.00	2.15	2.15
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.80	1.80	1.70	1.64	1.77		1.77	1.77
MIN	I	1.80	1.60	1.50	1.50	1.61		1.61	1.61
MAX	I	1.80	2.10	1.90	1.80	2.01		2.01	2.01
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.73	1.94	1.74	1.65	1.87	1.90	1.85	1.85
MIN	I	1.60	1.80	1.68	1.64	1.77	1.80	1.77	1.77
MAX	I	1.80	2.11	1.84	1.68	2.02	2.00	1.98	1.98
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

FEUT Iron ug/L DETECTION LIMIT USED:5

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	10.0	14.2	28.0	146.	21.0	100.	30.7	36.4
MIN	I	10.0	5.00	5.00	25.0	6.62	100.	6.62	6.62
MAX	I	10.0	26.0	85.0	370.	40.5	100.	100.	100.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 3.
MEAN	I	50.0	30.0	39.0	143.	37.0	100.	47.9	45.7
MIN	I	50.0	20.0	20.0	35.0	26.5	100.	26.5	26.5
MAX	I	50.0	50.0	75.0	440.	67.0	100.	100.	100.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	35.0	14.4L	35.8L	137.	22.4L		24.5L	22.4L
MIN	I	35.0	5.00	5.00	9.00	5.41		5.41	5.41
MAX	I	35.0	35.0	100.	570.	48.2		48.2	48.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	31.7	19.5	34.3	142.	26.8	100.	34.4	34.9
MIN	I	10.0	14.2	28.0	137.	21.0	100.	24.5	22.4
MAX	I	50.0	30.0	39.0	146.	37.0	100.	47.9	45.7
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

CROWN CALCULATION DATE: 86/06/18

FFIDUR Fluoride ug/L

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN		39.2	38.0	33.9	38.3	37.1	38.1	37.8
MIN		36.3	33.2	29.1	35.9	37.1	35.9	35.9
MAX		45.8	46.7	36.2	43.9	37.1	43.9	43.9
N		4.00	4.00	4.00	4.00	1.00	5.00	6.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	36.5	37.9	37.1	37.1	37.7	39.8	37.9	38.1
MIN	36.5	36.2	35.6	34.2	36.0	39.8	36.0	36.0
MAX	36.5	40.3	39.0	40.2	40.1	39.8	40.1	40.1
N	1.00	4.00	5.00	5.00	4.00	1.00	6.00	6.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	37.9	37.5	37.3	38.1	37.5		37.5	37.5
MIN	37.9	34.2	34.5	35.3	34.4		34.4	34.4
MAX	37.9	39.7	40.0	41.2	39.9		39.9	39.9
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	37.2	38.2	37.5	36.4	37.8	38.5	37.8	37.8
MIN	36.5	37.5	37.1	33.9	37.5	37.1	37.5	37.5
MAX	37.9	39.2	38.0	38.1	38.3	39.8	38.1	38.1
N	2.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

KKUR Potassium mg/L

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.36	0.332	0.336	0.348	0.335	0.30	0.333	0.328
MIN	0.36	0.32	0.32	0.32	0.324	0.30	0.30	0.30
MAX	0.36	0.34	0.34	0.36	0.341	0.30	0.36	0.341
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.32	0.342	0.346	0.35	0.343	0.70	0.391	0.394
MIN	0.32	0.32	0.33	0.33	0.324	0.70	0.32	0.324
MAX	0.32	0.35	0.36	0.36	0.352	0.70	0.70	0.70
N	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.34	0.378	0.362	0.394	0.378		0.372	0.378
MIN	0.34	0.34	0.33	0.38	0.349		0.34	0.349
MAX	0.34	0.46	0.40	0.41	0.439		0.439	0.439
N	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	0.34	0.351	0.348	0.364	0.352	0.50	0.365	0.367
MIN	0.32	0.332	0.336	0.348	0.335	0.30	0.333	0.328
MAX	0.36	0.378	0.362	0.394	0.378	0.70	0.391	0.394
N	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

```
CROWN                                                CALCULATION DATE: 86/08/18
MGUR    Magnesium  mg/L

1983->84
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       0.52        0.532         0.556         0.56      0.543          0.52        0.536         0.548
MIN   I       0.52         0.48          0.50         0.48      0.482          0.52        0.482         0.482
MAX   I       0.52         0.58          0.58         0.60      0.581          0.52        0.581          0.60
N     I       1.00         5.00          5.00         5.00       5.00          1.00         7.00          7.00

1984->85
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       0.60        0.564         0.576        0.584      0.569          0.57        0.574         0.568
MIN   I       0.60         0.55          0.56         0.57      0.557          0.57        0.557         0.557
MAX   I       0.60         0.59          0.60         0.60      0.591          0.57         0.60         0.591
N     I       1.00         5.00          5.00         5.00       5.00          1.00         7.00          7.00

1985->86
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       0.56        0.548         0.546        0.554      0.548                        0.55         0.548
MIN   I       0.56         0.53          0.51         0.53      0.534                       0.534         0.534
MAX   I       0.56         0.56          0.57         0.57      0.564                       0.564         0.564
N     I       1.00         5.00          5.00         5.00       5.00                        6.00          5.00

Overall summary of means
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       0.56        0.548         0.559        0.566      0.554         0.545        0.554         0.555
MIN   I       0.52        0.532         0.546        0.554      0.543          0.52        0.536         0.546
MAX   I       0.60        0.564         0.576        0.584      0.569          0.57        0.574         0.568
N     I       3.00         3.00          3.00         3.00       3.00          2.00         3.00          3.00



MNUT    Manganese  ug/L

1983->84
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       10.0         15.6          40.2         70.6       23.5          36.0         23.4          25.1
MIN   I       10.0         3.00          20.0         31.0       12.1          36.0         10.0          12.1
MAX   I       10.0         24.0          90.0         131.       35.2          36.0         36.0          36.0
N     I       1.00         5.00          5.00         5.00       5.00          1.00         7.00          7.00

1984->85
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       22.0         15.4          38.2         71.0       22.2          35.0         24.0          24.9
MIN   I       22.0         11.0          21.0         30.0       19.6          35.0         19.6          19.6
MAX   I       22.0         20.0          81.0         134.       28.3          35.0         35.0          35.0
N     I       1.00         5.00          5.00         5.00       5.00          1.00         7.00          7.00

1985->86
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       28.0         13.8          37.0         57.2       19.8                        21.1          19.8
MIN   I       28.0         10.0          16.0         22.0       13.4                        13.4          13.4
MAX   I       28.0         21.0          88.0         140.       29.8                        29.8          29.8
N     I       1.00         5.00          5.00         5.00       5.00                      . 6.00          5.00

Overall summary of means
      I     SPRING                                             SUMMER          FALL          ICE      JUNE 1->
      I   OVERTURN          EPI          META         HYPO      STRAT      OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN  I       20.0         14.9          38.5         66.3       21.8          35.5         22.8          23.2
MIN   I       10.0         13.8          37.0         57.2       19.8          35.0         21.1          19.8
MAX   I       28.0         15.6          40.2         71.0       23.5          36.0         24.0          25.1
N     I       3.00         3.00          3.00         3.00       3.00          2.00         3.00          3.00
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CROWN                                           CALCULATION DATE: 86/06/18
NAUR     Sodium  mg/L

1983->84
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      0.55       0.47         0.46         0.48           0.47         0.45        0.479        0.477
MIN     I      0.55       0.40         0.40         0.45          0.407         0.45        0.407        0.407
MAX     I      0.55       0.50         0.50         0.50           0.50         0.45         0.55         0.54
N       I      1.00       5.00         5.00         5.00           5.00         1.00         7.00         7.00

1984->85
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      0.54       0.54        0.532        0.536          0.538         0.54        0.538        0.534
MIN     I      0.54       0.53         0.52         0.52          0.528         0.54        0.528         0.51
MAX     I      0.54       0.56         0.55         0.56          0.559         0.54        0.559        0.559
N       I      1.00       5.00         5.00         5.00           5.00         1.00         7.00         7.00

1985->86
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      0.51      0.512        0.522        0.544          0.518                     0.517        0.518
MIN     I      0.51       0.48         0.47         0.48          0.478                     0.478        0.478
MAX     I      0.51       0.55         0.55         0.59          0.551                     0.551        0.551
N       I      1.00       5.00         5.00         5.00           5.00                      6.00         5.00

Overall summary of means
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I     0.533      0.507        0.505         0.52          0.509        0.495        0.511         0.51
MIN     I      0.51       0.47         0.46         0.48           0.47         0.45        0.479        0.477
MAX     I      0.55       0.54        0.532        0.544          0.538         0.54        0.538        0.534
N       I      3.00       3.00         3.00         3.00           3.00         2.00         3.00         3.00



NNHTFR  Ammonium as N   ug/L                    DETECTION LIMIT USED:1

1983->84
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      23.0       2.60         17.8         51.8           8.38         24.0         12.7         11.3
MIN     I      23.0       1.00         6.00         24.0           5.10         24.0         5.10         5.10
MAX     I      23.0       5.00         53.0         91.0           11.7         24.0         24.0         24.0
N       I      1.00       5.00         5.00         5.00           5.00         1.00         7.00         7.00

1984->85
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      13.0       3.30         16.0         45.0           7.77         1.00         7.55         8.41
MIN     I      13.0       1.00         2.00         14.0           5.90         1.00         1.00         1.00
MAX     I      13.0       5.00         48.0         75.0           9.23         1.00         13.0         19.0
N       I      1.00       5.00         5.00         5.00           5.00         1.00         7.00         7.00

1985->86
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      19.0      2.20L         14.6         40.8          6.65L                     8.71L        6.65L
MIN     I      19.0       1.00         3.00         16.0           5.62                      5.62         5.62
MAX     I      19.0       3.00         44.0         84.0           8.68                      19.0         8.68
N       I      1.00       5.00         5.00         5.00           5.00                      6.00         5.00

Overall summary of means
        I    SPRING                                               SUMMER        FALL          ICE     JUNE 1->
        I  OVERTURN        EPI         META         HYPO          STRAT     OVERTURN         FREE       MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN    I      18.3       2.70         16.1         45.9           7.60         12.5         9.65         8.78
MIN     I      13.0       2.20         14.6         40.8           6.65         1.00         7.55         6.65
MAX     I      23.0       3.30         17.8         51.8           8.38         24.0         12.7         11.3
N       I      3.00       3.00         3.00         3.00           3.00         2.00         3.00         3.00
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CROWN                                              CALCULATION DATE: 86/06/16
NNOTFR  Nitrate and Nitrite as N  ug/L             DETECTION LIMIT USED:2

1983->84
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      80.0        21.2L        49.4        82.4          31.0L        25.0          37.2L     35.0L
MIN    I      80.0         2.00        20.0        75.0          10.2         25.0          10.2      10.2
MAX    I      80.0        68.0         68.0        95.0          69.0         25.0          80.0      69.0
N      I      1.00         5.00        5.00        5.00          5.00         1.00          7.00      7.00

1984->85
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      65.0         4.80        31.6        93.0          15.5         20.0          23.2      27.5
MIN    I      65.0         3.00        3.00        55.0          8.61         20.0          8.61      8.61
MAX    I      65.0        10.0         80.0        200.          25.2         20.0          65.0      95.0
N      I      1.00         5.00        5.00        5.00          5.00         1.00          7.00      7.00

1985->86
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      95.0        23.4L        41.8        94.0          31.9L                      42.4L     31.9L
MIN    I      95.0         2.00        13.0        75.0          11.4                       11.4      11.4
MAX    I      95.0        80.0         80.0        125.          82.2                       95.0      82.2
N      I      1.00         5.00        5.00        5.00          5.00                       6.00      5.00

Overall summary of means
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      80.0        16.5         40.9        89.8          26.1         22.5          34.2      31.5
MIN    I      65.0         4.80        31.6        82.4          15.5         20.0          23.2      27.5
MAX    I      95.0        23.4         49.4        94.0          31.9         25.0          42.4      35.0
N      I      3.00         3.00        3.00        3.00          3.00         2.00          3.00      3.00



NNTKUR  Total Kjeldahl Nitrogen  ug/L

1983->84
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      145.         143.        154.        193.          147.         150.          147.      145.
MIN    I      145.         130.        140.        155.          138.         150.          138.      130.
MAX    I      145.         150.        170.        260.          158.         150.          158.      158.
N      I      1.00         5.00        5.00        5.00          5.00         1.00          7.00      7.00

1984->85
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      130.         178.        194.        188.          183.         170.          174.      178.
MIN    I      130.         150.        170.        140.          151.         170.          130.      151.
MAX    I      130.         200.        240.        220.          211.         170.          211.      211.
N      I      1.00         5.00        5.00        5.00          5.00         1.00          7.00      7.00

1985->86
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      160.         174.        176.        198.          174.                       172.      174.
MIN    I      160.         140.        150.        170.          147.                       147.      147.
MAX    I      160.         230.        190.        240.          219.                       219.      219.
N      I      1.00         5.00        5.00        5.00          5.00                       6.00      5.00

Overall summary of means
       I    SPRING                                               SUMMER       FALL          ICE    JUNE 1->
       I  OVERTURN          EPI        META        HYPO          STRAT     OVERTURN          FREE    MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I      145.         165.        175.        193.          168.         160.          164.      166.
MIN    I      130.         143.        154.        188.          147.         150.          147.      145.
MAX    I      160.         178.        194.        198.          183.         170.          174.      178.
N      I      3.00         3.00        3.00        3.00          3.00         2.00          3.00      3.00
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CROWN                                     CALCULATION DATE: 86/06/18
PH        pH

1983->84
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.92          6.10         5.86         5.67       6.02          6.05          6.01        6.00
MIN     I       5.92          5.96         5.62         5.58       5.87          6.05          5.87        5.85
MAX     I       5.92          6.24         5.99         5.81       6.15          6.05          6.15        6.15
N       I       1.00          5.00         5.00         5.00       5.00          1.00          7.00        7.00

1984->85
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.85          6.17         5.97         5.72       6.09          6.07          6.05        6.03
MIN     I       5.85          6.13         5.76         5.61       6.05          6.07          5.85        5.71
MAX     I       5.85          6.28         6.13         5.78       6.15          6.07          6.15        6.15
N       I       1.00          5.00         5.00         5.00       5.00          1.00          7.00        7.00

1985->86
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.71          6.20         5.94         5.66       6.10                        6.04        6.10
MIN     I       5.71          6.08         5.71         5.62       6.00                        5.71        6.00
MAX     I       5.71          6.34         6.08         5.74       6.19                        6.19        6.19
N       I       1.00          5.00         5.00         5.00       5.00                        6.00        5.00

Overall summary of means
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.83          6.16         5.92         5.68       6.07          6.06          6.03        6.04
MIN     I       5.71          6.10         5.86         5.66       6.02          6.05          6.01        6.00
MAX     I       5.92          6.20         5.97         5.72       6.10          6.07          6.05        6.10
N       I       3.00          3.00         3.00         3.00       3.00          2.00          3.00        3.00




PPUT      Total Phosphorous   ug/L

1983->84
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.10          3.37         4.28         5.36       3.90          3.77          4.05        4.17
MIN     I       5.10          2.83         3.10         4.10       3.21          3.77          3.21        3.21
MAX     I       5.10          4.17         5.50         7.00       4.74          3.77          5.10        5.10
N       I       1.00          5.00         5.00         5.00       5.00          1.00          7.00        7.00

1984->85
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.90          3.96         4.73         5.65       4.28                        4.61        4.31
MIN     I       5.90          2.60         3.97         4.83       2.92                        2.92        2.92
MAX     I       5.90          5.93         5.77         6.73       5.08                        5.90        5.08
N       I       1.00          5.00         5.00         4.00       4.00                        5.00        5.00

1985->86
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       4.40          4.03         4.72         6.53       4.40                        4.40        4.40
MIN     I       4.40          3.20         3.37         4.53       3.39                        3.39        3.39
MAX     I       4.40          5.47         5.57         9.37       5.63                        5.63        5.63
N       I       1.00          5.00         5.00         5.00       5.00                        6.00        5.00

Overall summary of means
        I    SPRING                                              SUMMER         FALL           ICE     JUNE 1->
        I   OVERTURN           EPI         META         HYPO      STRAT      OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       5.13          3.78         4.58         5.85       4.20          3.77          4.35        4.29
MIN     I       4.40          3.37         4.28         5.36       3.90          3.77          4.05        4.17
MAX     I       5.90          4.03         4.73         6.53       4.40          3.77          4.61        4.40
N       I       3.00          3.00         3.00         3.00       3.00          1.00          3.00        3.00
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CROWN                                         CALCULATION DATE: 86/06/18
SIO3UR  Silicates  mg/L

1983->84
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        0.55       0.30      0.408       0.568       0.334       0.31       0.361       0.336
MIN   I        0.55       0.15       0.31        0.50        0.20       0.31        0.20        0.20
MAX   I        0.55       0.50       0.49        0.62       0.503       0.31        0.55       0.503
N     I        1.00       5.00       5.00        5.00        5.00       1.00        7.00        7.00

1984->85
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        0.37      0.154      0.292       0.454       0.198       0.20       0.223       0.231
MIN   I        0.37       0.05       0.18        0.38      0.0986       0.20      0.0986      0.0986
MAX   I        0.37       0.31       0.40        0.61       0.329       0.20        0.37        0.43
N     I        1.00       5.00       5.00        5.00        5.00       1.00        7.00        7.00

1985->86
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        0.43      0.254      0.314       0.436       0.274                   0.30       0.274
MIN   I        0.43       0.18       0.25        0.38       0.209                  0.209       0.209
MAX   I        0.43       0.38       0.39        0.60       0.382                   0.43       0.382
N     I        1.00       5.00       5.00        5.00        5.00                   6.00        5.00

Overall summary of means
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        0.45      0.236      0.338       0.486       0.268      0.255       0.294        0.28
MIN   I        0.37      0.154      0.292       0.436       0.198       0.20       0.223       0.231
MAX   I        0.55       0.30      0.408       0.568       0.334       0.31       0.361       0.336
N     I        3.00       3.00       3.00        3.00        3.00       2.00        3.00        3.00



SSO4UR  Sulphate as SO4  mg/L

1983->84
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        8.30       7.49       7.35        7.40        7.48       7.42        7.59        7.47
MIN   I        8.30       7.21       6.85        6.94        7.16       7.42        7.16        7.16
MAX   I        8.30       7.74       7.60        7.71        7.67       7.42        8.30        7.67
N     I        1.00       5.00       5.00        5.00        5.00       1.00        7.00        6.00

1984->85
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I                   7.14       7.04        6.94        7.11       6.70        7.03        7.03
MIN   I                   6.63       6.40        6.43        6.52       6.70        6.52        6.52
MAX   I                   7.45       7.36        7.31        7.42       6.70        7.42        7.42
N     I                   4.00       4.00        4.00        4.00       1.00        5.00        6.00

1985->86
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        7.06       6.98       6.88        6.81        6.95                   6.97        6.95
MIN   I        7.06       6.84       6.66        6.68        6.79                   6.79        6.79
MAX   I        7.06       7.24       7.14        6.93        7.22                   7.22        7.22
N     I        1.00       4.00       4.00        4.00        4.00                   5.00        4.00

Overall summary of means
      I    SPRING                                          SUMMER      FALL        ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO       STRAT   OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        7.68       7.20       7.09        7.05        7.18       7.06        7.20        7.15
MIN   I        7.06       6.98       6.88        6.81        6.95       6.70        6.97        6.95
MAX   I        8.30       7.49       7.35        7.40        7.48       7.42        7.59        7.47
N     I        2.00       3.00       3.00        3.00        3.00       2.00        3.00        3.00
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KIMBALL
                                                Calculation date: 86/06/18

1983->84
         SPRING                                 SUMMER     FALL       ICE  JUNE 1->
       OVERTURN       EPI      META      HYPO    STRAT  OVERTURN     FREE    MAY 31
-----------------------------------------------------------------------------------
 START   830425    830521    830521    830521   830521    831101   830425    830601
   END   830520    831031    831031    831031   831031    831118   831118    840531

1984->85
         SPRING                                 SUMMER     FALL       ICE  JUNE 1->
       OVERTURN       EPI      META      HYPO    STRAT  OVERTURN     FREE    MAY 31
-----------------------------------------------------------------------------------
 START   840425    840521    840521    840521   840521    841106   840425    840601
   END   840520    841105    841105    841105   841105    841214   841214    840531

1985->86
         SPRING                                 SUMMER     FALL       ICE  JUNE 1->
       OVERTURN       EPI      META      HYPO    STRAT  OVERTURN     FREE    MAY 31
-----------------------------------------------------------------------------------
 START   850425    850513    850513    850513   850513    851120   850425    850601
   END   850512    851119    851119    851119   851119    851204   851204    860531



ALKT1   Alkalinity, TIA as CaCO3  mg/L

1983->84
      I   SPRING                                       SUMMER        FALL         ICE    JUNE 1-
      I  OVERTURN         EPI       META       HYPO     STRAT    OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN  I       1.06       1.34       1.18       1.24       1.26                   1.23       1.19
MIN   I       1.06       0.92       0.94       1.16       1.15                   1.06       0.83
MAX   I       1.06       1.51       1.27       1.37       1.37                   1.37       1.37
N     I       1.00       5.00       5.00       5.00       5.00                   6.00       6.00

1984->85
      I   SPRING                                       SUMMER        FALL         ICE   JUNE 1->
      I  OVERTURN         EPI       META       HYPO     STRAT    OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN  I       0.83       1.42       1.28       1.23       1.30       1.45        1.25
MIN   I       0.83       1.14       1.08       1.05       1.08       1.45        0.83
MAX   I       0.83       1.55       1.39       1.35       1.43       1.45        1.45
N     I       1.00       5.00       5.00       5.00       5.00       1.00        7.00

1985->86
      I   SPRING                                       SUMMER        FALL         ICE   JUNE 1->
      I  OVERTURN         EPI       META       HYPO     STRAT    OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN  I       1.08       1.43       1.37       1.24       1.33                   1.29       1.33
MIN   I       1.08       1.34       1.16       1.19       1.26                   1.08       1.26
MAX   I       1.08       1.55       1.49       1.30       1.39                   1.39       1.39
N     I       1.00       5.00       5.00       5.00       5.00                   6.00       5.00

Overall summary of means
      I   SPRING                                       SUMMER        FALL         ICE   JUNE 1->
      I  OVERTURN         EPI       META       HYPO     STRAT    OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN  I       0.99       1.40       1.28       1.24       1.30       1.45        1.26       1.26
MIN   I       0.83       1.34       1.18       1.23       1.26       1.45        1.23       1.19
MAX   I       1.08       1.43       1.37       1.24       1.33       1.45        1.29       1.33
N     I       3.00       3.00       3.00       3.00       3.00       1.00        3.00       2.00
```

KIMBALL
ALUT Aluminum ug/L

CALCULATION DATE: 86/06/18
DETECTION LIMIT USED:1

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	57.0	18.2L	54.4	48.6	41.3L		43.9L	41.4L
MIN	I	57.0	1.00	45.0	34.0	32.4		32.4	32.4
MAX	I	57.0	48.0	72.0	71.0	58.7		58.7	58.7
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	42.0	28.0	40.4	43.6	37.4	29.0	36.8	
MIN	I	42.0	9.00	37.0	39.0	28.2	29.0	28.2	
MAX	I	42.0	72.0	49.0	48.0	52.6	29.0	52.6	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	45.0	21.8	39.6	44.8	36.5		37.9	36.5
MIN	I	45.0	9.00	35.0	43.0	29.8		29.8	29.8
MAX	I	45.0	35.0	45.0	46.0	41.8		45.0	41.8
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	48.0	22.7	44.8	45.7	38.4	29.0	39.6	39.0
MIN	I	42.0	18.2	39.6	43.6	36.5	29.0	36.8	36.5
MAX	I	57.0	28.0	54.4	48.6	41.3	29.0	43.9	41.4
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

CAUR Calcium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.70	2.52	2.60	2.66	2.61		2.63	2.62
MIN	I	2.70	2.30	2.50	2.50	2.52		2.52	2.52
MAX	I	2.70	2.80	2.80	2.90	2.84		2.84	2.84
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.69	2.63	2.66	2.69	2.67	2.62	2.66	
MIN	I	2.69	2.49	2.57	2.61	2.58	2.62	2.58	
MAX	I	2.69	2.68	2.74	2.74	2.72	2.62	2.72	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.64	2.70	2.70	2.68	2.71		2.69	2.71
MIN	I	2.64	2.65	2.63	2.53	2.69		2.64	2.69
MAX	I	2.64	2.76	2.78	2.73	2.75		2.75	2.75
N	I	1.00	4.00	4.00	5.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.68	2.62	2.65	2.68	2.66	2.62	2.66	2.67
MIN	I	2.64	2.52	2.60	2.66	2.61	2.62	2.63	2.62
MAX	I	2.70	2.70	2.70	2.69	2.71	2.62	2.69	2.71
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

```
KIMBALL                                           CALCULATION DATE: 86/06/18
CLIDUR  Chloride  mg/L

1983->84
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       0.35      0.318       0.338       0.378        0.351                     0.351       0.339
MIN    I       0.35       0.22        0.26        0.27        0.283                     0.283        0.28
MAX    I       0.35       0.38        0.40        0.46        0.386                     0.386       0.386
N      I       1.00       5.00        5.00        5.00         5.00                      6.00        6.00

1984->85
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       0.28      0.282       0.314        0.30        0.295        0.27         0.289
MIN    I       0.28       0.22        0.27        0.24         0.24        0.27          0.24
MAX    I       0.28       0.33        0.38        0.33        0.325        0.27         0.325
N      I       1.00       5.00        5.00        5.00         5.00        1.00          7.00

1985->86
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       0.32      0.225       0.235       0.248        0.237                     0.254       0.237
MIN    I       0.32       0.10        0.14        0.16        0.133                     0.133       0.133
MAX    I       0.32       0.32        0.29        0.30        0.304                      0.32       0.304
N      I       1.00       4.00        4.00        4.00         4.00                      5.00        4.00

Overall summary of means
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I      0.317      0.275       0.296       0.309        0.294        0.27         0.298       0.288
MIN    I       0.28      0.225       0.235       0.248        0.237        0.27         0.254       0.237
MAX    I       0.35      0.318       0.338       0.378        0.351        0.27         0.351       0.339
N      I       3.00       3.00        3.00        3.00         3.00        1.00          3.00        2.00




COLTR   Colour (true)

1983->84
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       10.0       7.40        10.4        10.8         9.66                      9.72        9.72
MIN    I       10.0       4.00        8.00        7.00         5.97                      5.97        5.97
MAX    I       10.0       13.0        13.0        13.0         13.0                      13.0        13.0
N      I       1.00       5.00        5.00        5.00         5.00                      6.00        6.00

1984->85
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       10.0       11.2        13.0        13.2         12.6        5.00          11.1
MIN    I       10.0       2.00        2.00        3.00         2.48        5.00          2.48
MAX    I       10.0       30.0        32.0        27.0         29.2        5.00          29.2
N      I       1.00       5.00        5.00        5.00         5.00        1.00          7.00

1985->86
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       10.0       5.80        10.4        10.4         8.95                      9.13        8.95
MIN    I       10.0       3.00        8.00        9.00         6.80                      6.80        6.80
MAX    I       10.0       9.00        12.0        11.0         10.5                      10.5        10.5
N      I       1.00       5.00        5.00        5.00         5.00                      6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER      FALL          ICE    JUNE 1->
       I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN   I       10.0       8.13        11.3        11.5         10.4        5.00          9.99        9.34
MIN    I       10.0       5.80        10.4        10.4         8.95        5.00          9.13        8.95
MAX    I       10.0       11.2        13.0        13.2         12.6        5.00          11.1        9.72
N      I       3.00       3.00        3.00        3.00         3.00        1.00          3.00        2.00
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COND25  Conductivity (25 C)

1983->84
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      30.0        30.0        30.4         31.0         30.6                       30.5       30.4
MIN  I      30.0        29.9        30.0         31.0         30.5                       30.0       29.7
MAX  I      30.0        30.0        31.2         31.2         30.7                       30.7       30.7
N    I      1.00        5.00        5.00         5.00         5.00                       6.00       6.00

1984->85
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      29.7        28.9        30.0         30.3         29.9         29.3          29.8
MIN  I      29.7        28.0        29.7         30.0         29.7         29.3          29.3
MAX  I      29.7        29.4        30.5         30.6         30.1         29.3          30.1
N    I      1.00        5.00        5.00         5.00         5.00         1.00          7.00

1985->86
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      29.1        28.6        28.9         29.2         29.0                       29.0       29.0
MIN  I      29.1        28.3        28.8         29.1         28.8                       28.8       28.8
MAX  I      29.1        28.8        29.0         29.3         29.1                       29.1       29.1
N    I      1.00        5.00        5.00         5.00         5.00                       6.00       5.00

Overall summary of means
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      29.6        29.2        29.8         30.2         29.8         29.3          29.7       29.7
MIN  I      29.1        28.6        28.9         29.2         29.0         29.3          29.0       29.0
MAX  I      30.0        30.0        30.4         31.0         30.6         29.3          30.5       30.4
N    I      3.00        3.00        3.00         3.00         3.00         1.00          3.00       2.00
```

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DIC     Dissolved Inorganic Carbon  mg/L

1983->84
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      0.85       0.422       0.836         1.04        0.801                      0.809      0.785
MIN  I      0.85        0.39        0.65         0.89        0.707                      0.707      0.707
MAX  I      0.85        0.46        1.28         1.26        0.949                      0.949      0.949
N    I      1.00        5.00        5.00         5.00         5.00                       6.00       6.00

1984->85
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      0.71       0.392        0.78         1.11        0.823         1.00         0.832
MIN  I      0.71        0.31        0.58         0.94        0.728         1.00          0.71
MAX  I      0.71        0.47        1.13         1.39         0.98         1.00          1.00
N    I      1.00        5.00        5.00         5.00         5.00         1.00          7.00

1985->86
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      0.72        0.48       0.816         1.30        0.974                      0.931      0.974
MIN  I      0.72        0.35        0.60         0.89        0.728                       0.72      0.728
MAX  I      0.72        0.79        1.08         1.76         1.42                       1.42       1.42
N    I      1.00        5.00        5.00         5.00         5.00                       6.00       5.00

Overall summary of means
     I   SPRING                                              SUMMER        FALL          ICE      JUNE 1->
     I  OVERTURN        EPI         META         HYPO         STRAT      OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------------
MEAN I      0.76       0.431       0.811         1.15        0.866         1.00         0.857       0.88
MIN  I      0.71       0.392        0.78         1.04        0.801         1.00         0.809      0.785
MAX  I      0.85        0.48       0.836         1.30        0.974         1.00         0.931      0.974
N    I      3.00        3.00        3.00         3.00         3.00         1.00          3.00       2.00
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KIMBALL CALCULATION DATE: 86/06/18

DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.50	2.46	2.54	2.42	2.46		2.47	2.47
MIN	I	2.50	2.30	2.40	2.30	2.39		2.39	2.39
MAX	I	2.50	2.60	2.70	2.60	2.57		2.57	2.57
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.50	2.78	2.64	2.48	2.60	2.50	2.57	
MIN	I	2.50	2.70	2.60	2.40	2.56	2.50	2.50	
MAX	I	2.50	2.90	2.70	2.60	2.63	2.50	2.63	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.60	2.34	2.38	2.28	2.32		2.37	2.32
MIN	I	2.60	2.30	2.30	2.10	2.19		2.19	2.19
MAX	I	2.60	2.40	2.50	2.40	2.40		2.60	2.40
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.53	2.53	2.52	2.39	2.46	2.50	2.47	2.39
MIN	I	2.50	2.34	2.38	2.28	2.32	2.50	2.37	2.32
MAX	I	2.60	2.78	2.64	2.48	2.60	2.50	2.57	2.47
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

FEUT Iron ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	80.0	21.0	21.0	37.0	27.5		36.3	38.0
MIN	I	80.0	10.0	15.0	20.0	22.2		22.2	22.2
MAX	I	80.0	35.0	35.0	70.0	34.3		80.0	90.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	90.0	47.0	36.0	36.0	39.9	50.0	48.5	
MIN	I	90.0	30.0	25.0	25.0	29.9	50.0	29.9	
MAX	I	90.0	90.0	55.0	45.0	64.1	50.0	90.0	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	65.0	28.6	20.4	39.0	33.3		38.0	33.3
MIN	I	65.0	14.0	10.0	11.0	13.1		13.1	13.1
MAX	I	65.0	76.0	52.0	99.0	86.5		86.5	86.5
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	78.3	32.2	25.8	37.3	33.6	50.0	41.1	35.6
MIN	I	65.0	21.0	20.4	36.0	27.5	50.0	36.3	33.3
MAX	I	90.0	47.0	36.0	39.0	39.9	50.0	48.5	38.0
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

FFIDUR Fluoride ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		44.1	43.7	44.9	44.7		44.7	44.9
MIN	I		39.0	42.5	42.0	43.2		43.2	43.2
MAX	I		46.1	44.8	49.6	46.3		46.3	46.3
N	I		4.00	4.00	4.00	4.00		4.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	45.7	46.9	45.4	45.7	45.9	47.4	46.1	
MIN	I	45.7	44.4	42.2	42.4	42.9	47.4	42.9	
MAX	I	45.7	49.6	48.0	48.4	48.7	47.4	48.7	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	48.2	47.1	46.2	46.4	46.6		46.8	46.6
MIN	I	48.2	45.7	44.3	45.5	45.8		45.8	45.8
MAX	I	48.2	48.4	48.0	48.9	48.5		48.5	48.5
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	47.0	46.0	45.1	45.6	45.7	47.4	45.9	45.7
MIN	I	45.7	44.1	43.7	44.9	44.7	47.4	44.7	44.9
MAX	I	48.2	47.1	46.2	46.4	46.6	47.4	46.8	46.6
N	I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

KKUR Potassium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.40	0.392	0.38	0.392	0.389		0.390	0.386
MIN	I	0.40	0.38	0.36	0.38	0.38		0.38	0.37
MAX	I	0.40	0.40	0.40	0.42	0.41		0.41	0.41
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.37	0.382	0.384	0.386	0.385	0.39	0.383	
MIN	I	0.37	0.36	0.37	0.37	0.368	0.39	0.368	
MAX	I	0.37	0.39	0.39	0.39	0.39	0.39	0.39	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.39	0.402	0.49	0.418	0.424		0.418	0.424
MIN	I	0.39	0.39	0.39	0.39	0.401		0.39	0.401
MAX	I	0.39	0.42	0.81	0.45	0.488		0.488	0.498
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.387	0.392	0.418	0.399	0.399	0.39	0.397	0.405
MIN	I	0.37	0.382	0.38	0.386	0.385	0.39	0.383	0.386
MAX	I	0.40	0.402	0.49	0.418	0.424	0.39	0.418	0.424
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

MGUR Magnesium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.66	0.732	0.756	0.732	0.74		0.727	0.74
MIN	I	0.66	0.70	0.74	0.68	0.713		0.66	0.713
MAX	I	0.66	0.76	0.76	0.78	0.77		0.77	0.77
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.74	0.735	0.752	0.758	0.751	0.74	0.748	
MIN	I	0.74	0.71	0.73	0.74	0.731	0.74	0.731	
MAX	I	0.74	0.75	0.76	0.77	0.758	0.74	0.758	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.72	0.712	0.742	0.726	0.724		0.724	0.724
MIN	I	0.72	0.67	0.72	0.66	0.681		0.681	0.681
MAX	I	0.72	0.73	0.75	0.77	0.749		0.749	0.749
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.707	0.726	0.75	0.739	0.739	0.74	0.733	0.732
MIN	I	0.66	0.712	0.742	0.726	0.724	0.74	0.724	0.724
MAX	I	0.74	0.735	0.756	0.758	0.751	0.74	0.748	0.74
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

MNUT Manganese ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	24.0	10.8	17.6	17.0	14.8		16.3	16.1
MIN	I	24.0	6.00	8.00	10.0	8.71		8.71	8.71
MAX	I	24.0	21.0	27.0	23.0	17.1		24.0	23.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	23.0	11.2	17.8	15.4	14.6	24.0	17.1	
MIN	I	23.0	6.00	15.0	11.0	10.7	24.0	10.7	
MAX	I	23.0	20.0	20.0	22.0	21.0	24.0	24.0	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	28.0	14.0	20.4	15.8	15.9		18.0	15.9
MIN	I	28.0	7.00	16.0	13.0	12.0		12.0	12.0
MAX	I	28.0	22.0	24.0	20.0	20.9		28.0	20.9
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	25.0	12.0	18.6	16.1	15.1	24.0	17.1	16.0
MIN	I	23.0	10.8	17.6	15.4	14.6	24.0	16.3	15.9
MAX	I	28.0	14.0	20.4	17.0	15.9	24.0	18.0	16.1
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

KIMBALL CALCULATION DATE: 86/06/18
NAUR Sodium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.60	0.57	0.54	0.55	0.554		0.561	0.563
MIN	I	0.60	0.55	0.50	0.50	0.531		0.531	0.531
MAX	I	0.60	0.60	0.55	0.60	0.574		0.60	0.61
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.61	0.618	0.61	0.612	0.613	0.62	0.614	
MIN	I	0.61	0.61	0.60	0.60	0.603	0.62	0.603	
MAX	I	0.61	0.64	0.63	0.63	0.634	0.62	0.634	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.59	0.612	0.572	0.586	0.59		0.59	0.59
MIN	I	0.59	0.54	0.54	0.55	0.547		0.547	0.547
MAX	I	0.59	0.82	0.61	0.63	0.676		0.676	0.676
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.60	0.60	0.574	0.583	0.585	0.62	0.588	0.576
MIN	I	0.59	0.57	0.54	0.55	0.554	0.62	0.561	0.563
MAX	I	0.61	0.618	0.61	0.612	0.613	0.62	0.614	0.59
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

NNHTFR Ammonium as N ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.00	4.80	4.00	5.20	4.62		4.01	4.18
MIN	I	1.00	2.00	2.00	1.00	2.33		1.00	2.00
MAX	I	1.00	9.00	6.00	8.00	6.99		6.99	6.99
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.00	4.40	8.60	8.20	7.22	2.00	5.73	
MIN	I	2.00	2.00	3.00	3.00	3.18	2.00	2.00	
MAX	I	2.00	8.00	12.0	12.0	9.65	2.00	9.65	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.00	3.40	4.20	4.20	3.93		3.61	3.93
MIN	I	2.00	1.00	3.00	3.00	2.49		2.00	2.49
MAX	I	2.00	6.00	6.00	7.00	6.54		6.54	6.54
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.67	4.20	5.60	5.87	5.26	2.00	4.45	4.05
MIN	I	1.00	3.40	4.00	4.20	3.93	2.00	3.61	3.93
MAX	I	2.00	4.80	8.60	8.20	7.22	2.00	5.73	4.18
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

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KIMBALL                                         CALCULATION DATE: 86/06/18
NNOTFR  Nitrate and Nitrite as N  ug/L

1983->84
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      159.        73.6        133.        159.        126.                     132.        126.
MIN  I      159.        42.0        125.        155.        113.                     113.        113.
MAX  I      159.        120.        139.        167.        141.                     159.        141.
N    I      1.00        5.00        5.00        5.00        5.00                     6.00        6.00

1984->85
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      125.        55.0        124.        151.        117.        120.         118.
MIN  I      125.        35.0        100.        125.        107.        120.         107.
MAX  I      125.        90.0        150.        175.        123.        120.         125.
N    I      1.00        5.00        5.00        5.00        5.00        1.00         7.00

1985->86
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      165.        103.        135.        177.        146.                     149.        146.
MIN  I      165.        65.0        110.        165.        122.                     122.        122.
MAX  I      165.        135.        160.        200.        172.                     172.        172.
N    I      1.00        5.00        5.00        5.00        5.00                     6.00        5.00

Overall summary of means
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      150.        77.3        131.        162.        130.        120.         133.        136.
MIN  I      125.        55.0        124.        151.        117.        120.         118.        126.
MAX  I      165.        103.        135.        177.        146.        120.         149.        146.
N    I      3.00        3.00        3.00        3.00        3.00        1.00         3.00        2.00



NNTKUR  Total Kjeldahl Nitrogen  ug/L

1983->84
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      130.        160.        152.        144.        151.                     148.        149.
MIN  I      130.        150.        140.        130.        143.                     130.        135.
MAX  I      130.        190.        160.        155.        168.                     168.        168.
N    I      1.00        5.00        5.00        5.00        5.00                     6.00        6.00

1984->85
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      135.        186.        168.        148.        163.        130.         154.
MIN  I      135.        160.        150.        120.        140.        130.         130.
MAX  I      135.        210.        190.        160.        175.        130.         175.
N    I      1.00        5.00        5.00        5.00        5.00        1.00         7.00

1985->86
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      170.        178.        160.        144.        157.                     159.        157.
MIN  I      170.        130.        120.        120.        128.                     128.        128.
MAX  I      170.        270.        200.        170.        202.                     202.        202.
N    I      1.00        5.00        5.00        5.00        5.00                     6.00        5.00

Overall summary of means
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN         EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      145.        175.        160.        145.        157.        130.         154.        153.
MIN  I      130.        160.        152.        144.        151.        130.         148.        149.
MAX  I      170.        186.        168.        148.        163.        130.         159.        157.
N    I      3.00        3.00        3.00        3.00        3.00        1.00         3.00        2.00
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KIMBALL                                  CALCULATION DATE: 86/06/18
PH       pH

1983->84
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      5.93      6.36      5.93      5.85      6.02                6.01      6.01
MIN   I      5.93      6.04      5.81      5.77      5.96                5.93      5.93
MAX   I      5.93      6.56      5.98      5.93      6.10                6.10      6.10
N     I      1.00      5.00      5.00      5.00      5.00                6.00      6.00

1984->85
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      5.93      6.43      6.00      5.87      6.06      6.00      6.04
MIN   I      5.93      6.35      5.78      5.73      6.03      6.00      5.93
MAX   I      5.93      6.50      6.14      5.97      6.11      6.00      6.11
N     I      1.00      5.00      5.00      5.00      5.00      1.00      7.00

1985->86
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      5.94      6.42      6.08      5.85      6.06                6.04      6.06
MIN   I      5.94      6.27      6.01      5.76      6.02                5.94      6.02
MAX   I      5.94      6.61      6.16      5.91      6.16                6.16      6.16
N     I      1.00      5.00      5.00      5.00      5.00                6.00      5.00

Overall summary of means
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      5.93      6.41      6.00      5.86      6.05      6.00      6.03      6.04
MIN   I      5.93      6.36      5.93      5.85      6.02      6.00      6.01      6.01
MAX   I      5.94      6.43      6.08      5.87      6.06      6.00      6.04      6.06
N     I      3.00      3.00      3.00      3.00      3.00      1.00      3.00      2.00



PTOT   Total Phosphorous  ug/L

1983->84
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      3.90      3.31      4.19      3.59      3.64                3.69      3.77
MIN   I      3.90      2.93      3.13      3.30      3.26                3.26      3.26
MAX   I      3.90      3.70      5.47      4.03      4.03                4.03      4.40
N     I      1.00      5.00      5.00      5.00      5.00                6.00      6.00

1984->85
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      4.40      3.29      3.59      3.40      3.40      4.30      3.67
MIN   I      4.40      2.57      3.13      2.43      2.63      4.30      2.63
MAX   I      4.40      3.90      4.40      5.00      4.51      4.30      4.51
N     I      1.00      5.00      5.00      5.00      5.00      1.00      7.00

1985->86
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      3.87      3.28      3.92      4.04      3.86                3.86      3.86
MIN   I      3.87      2.03      3.10      3.07      2.81                2.81      2.81
MAX   I      3.87      4.30      5.13      5.50      5.14                5.14      5.14
N     I      1.00      5.00      5.00      5.00      5.00                6.00      5.00

Overall summary of means
      I    SPRING                              SUMMER      FALL       ICE  JUNE 1->
      I  OVERTURN       EPI      META      HYPO     STRAT  OVERTURN      FREE    MAY 31
---------------------------------------------------------------------------------------
MEAN  I      4.06      3.29      3.90      3.68      3.64      4.30      3.74      3.82
MIN   I      3.87      3.28      3.59      3.40      3.40      4.30      3.67      3.77
MAX   I      4.40      3.31      4.19      4.04      3.86      4.30      3.86      3.86
N     I      3.00      3.00      3.00      3.00      3.00      1.00      3.00      2.00
```

KIMBALL CALCULATION DATE: 86/06/18

SIO3UR Silicates mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1 MAY 31
MEAN	I	1.48	1.18	1.31	1.49	1.35		1.37	1.36
MIN	I	1.48	1.00	1.19	1.43	1.25		1.25	1.25
MAX	I	1.48	1.31	1.38	1.56	1.44		1.48	1.44
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.38	0.964	1.22	1.28	1.17	1.07	1.18	
MIN	I	1.38	0.70	1.13	0.56	0.785	1.07	0.785	
MAX	I	1.38	1.15	1.25	1.49	1.36	1.07	1.38	
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.29	1.12	1.18	1.32	1.23		1.24	1.23
MIN	I	1.29	1.05	1.16	1.27	1.19		1.19	1.19
MAX	I	1.29	1.18	1.22	1.41	1.26		1.29	1.26
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.38	1.09	1.24	1.36	1.25	1.07	1.27	1.29
MIN	I	1.29	0.964	1.18	1.28	1.17	1.07	1.18	1.23
MAX	I	1.48	1.18	1.31	1.49	1.35	1.07	1.37	1.36
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

SSO4UR Sulphate as SO4 mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	9.66	8.54	8.50	8.45	8.49		8.68	8.49
MIN	I	9.66	8.48	8.39	8.08	8.27		8.27	8.27
MAX	I	9.66	8.65	8.66	8.70	8.68		9.66	8.68
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		8.15	8.34	8.42	8.33	8.16	8.30	
MIN	I		7.65	8.16	8.24	8.08	8.16	8.08	
MAX	I		8.54	8.50	8.60	8.56	8.16	8.56	
N	I		4.00	4.00	4.00	4.00	1.00	5.00	

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	8.05	7.89	7.94	7.96	7.93		7.95	7.93
MIN	I	8.05	7.77	7.69	7.73	7.73		7.73	7.73
MAX	I	8.05	8.12	8.17	8.15	8.15		8.15	8.15
N	I	1.00	4.00	4.00	4.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	8.86	8.19	8.26	8.28	8.25	8.16	8.31	8.21
MIN	I	8.05	7.89	7.94	7.96	7.93	8.16	7.95	7.93
MAX	I	9.66	8.54	8.50	8.45	8.49	8.16	8.68	8.49
N	I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	2.00

LOUISA

Calculation date: 86/06/18

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	830521	830521	830521	831101	830425	830601
END	830520	831031	831031	831031	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	840521	840521	840521	841106	840425	840601
END	840520	841105	841105	841105	841105	841214	841214	850531

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	850513	850513	850513	851120	850425	850601
END	850512	851119	851119	851119	851119	851204	851204	860531

ALKTI Alkalinity, TIA as CaCO3 mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.01	1.14	1.11	1.04	1.09		1.08	1.01
MIN	I	1.01	0.92	0.96	0.92	0.939		0.939	0.68
MAX	I	1.01	1.32	1.24	1.14	1.22		1.22	1.22
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.68	1.29	1.29	1.12	1.21	1.32	1.15	1.16
MIN	I	0.68	1.02	0.99	0.88	0.948	1.32	0.68	0.91
MAX	I	0.68	1.47	1.59	1.40	1.44	1.32	1.44	1.44
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.91	1.23	1.26	1.15	1.21		1.16	1.21
MIN	I	0.91	1.14	1.22	1.07	1.14		0.91	1.14
MAX	I	0.91	1.37	1.32	1.28	1.26		1.26	1.26
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.867	1.22	1.22	1.10	1.17	1.32	1.13	1.13
MIN	I	0.68	1.14	1.11	1.04	1.09	1.32	1.08	1.01
MAX	I	1.01	1.29	1.29	1.15	1.21	1.32	1.16	1.21
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
LOUISA                                          CALCULATION DATE: 86/06/18
ALUT    Aluminum  ug/L

1983->84
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      57.0          23.0         36.3        44.0      34.6                      39.1       36.5
MIN    I      57.0          10.0         26.0        39.0      31.8                      31.8       31.8
MAX    I      57.0          31.0         44.0        48.0      39.3                      57.0       44.0
N      I      1.00          4.00         4.00        4.00      4.00                      5.00       5.00

1984->85
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      44.0          24.4         39.6        45.4      36.1         31.0         36.5       36.2
MIN    I      44.0          12.0         32.0        43.0      29.3         31.0         29.3       29.3
MAX    I      44.0          40.0         52.0        50.0      45.4         31.0         45.4       45.4
N      I      1.00          5.00         5.00        5.00      5.00         1.00         7.00       7.00

1985->86
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      42.0          23.0         35.5        44.8      34.7                      36.2       34.7
MIN    I      42.0          14.0         13.0        42.0      27.7                      27.7       27.7
MAX    I      42.0          36.0         50.0        47.0      40.4                      42.0       40.4
N      I      1.00          5.00         4.00        4.00      4.00                      5.00       4.00

Overall summary of means
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      47.7          23.5         37.1        44.7      35.1         31.0         37.2       35.8
MIN    I      42.0          23.0         35.5        44.0      34.6         31.0         36.2       34.7
MAX    I      57.0          24.4         39.6        45.4      36.1         31.0         39.1       36.5
N      I      3.00          3.00         3.00        3.00      3.00         1.00         3.00       3.00



CAUR    Calcium  mg/L

1983->84
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      2.80          2.48         2.53        2.58      2.53                      2.58       2.55
MIN    I      2.80          2.40         2.40        2.50      2.44                      2.44       2.44
MAX    I      2.80          2.60         2.70        2.70      2.66                      2.80       2.66
N      I      1.00          4.00         4.00        4.00      4.00                      5.00       5.00

1984->85
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      2.63          2.52         2.55        2.58      2.55         2.58         2.56       2.54
MIN    I      2.63          2.48         2.40        2.51      2.48         2.58         2.48       2.47
MAX    I      2.63          2.55         2.62        2.66      2.62         2.58         2.63       2.62
N      I      1.00          5.00         5.00        5.00      5.00         1.00         7.00       7.00

1985->86
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      2.47          2.44         2.45        2.49      2.47                      2.47       2.47
MIN    I      2.47          2.35         2.36        2.35      2.35                      2.35       2.35
MAX    I      2.47          2.56         2.57        2.58      2.57                      2.57       2.57
N      I      1.00          5.00         5.00        5.00      5.00                      6.00       5.00

Overall summary of means
       I     SPRING                                         SUMMER         FALL          ICE    JUNE 1->
       I   OVERTURN          EPI         META        HYPO     STRAT     OVERTURN          FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN   I      2.63          2.48         2.51        2.55      2.51         2.58         2.54       2.52
MIN    I      2.47          2.44         2.45        2.49      2.47         2.58         2.47       2.47
MAX    I      2.80          2.52         2.55        2.58      2.55         2.58         2.58       2.55
N      I      3.00          3.00         3.00        3.00      3.00         1.00         3.00       3.00
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LOUISA CALCULATION DATE: 86/06/18

CLIDUR Chloride mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.30	0.283	0.285	0.28	0.281		0.285	0.263
MIN	I	0.30	0.27	0.21	0.22	0.23		0.23	0.19
MAX	I	0.30	0.30	0.35	0.35	0.319		0.319	0.319
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.19	0.254	0.262	0.26	0.26	0.22	0.245	0.255
MIN	I	0.19	0.20	0.14	0.20	0.201	0.22	0.19	0.201
MAX	I	0.19	0.35	0.36	0.32	0.338	0.22	0.338	0.338
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.26	0.23	0.246	0.234	0.223		0.231	0.223
MIN	I	0.26	0.17	0.17	0.16	0.166		0.166	0.166
MAX	I	0.26	0.28	0.32	0.31	0.262		0.262	0.262
N	I	1.00	4.00	5.00	5.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.25	0.256	0.264	0.258	0.255	0.22	0.253	0.247
MIN	I	0.19	0.23	0.246	0.234	0.223	0.22	0.231	0.223
MAX	I	0.30	0.283	0.285	0.28	0.281	0.22	0.285	0.263
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

COLTR Colour (true)

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	11.0	8.75	11.5	11.8	10.7		10.7	10.1
MIN	I	11.0	6.00	9.00	9.00	8.55		8.55	8.00
MAX	I	11.0	11.0	16.0	15.0	13.6		13.6	13.6
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	8.00	10.3	12.2	8.80	10.4	8.00	9.60	10.3
MIN	I	8.00	4.00	6.00	1.00	6.00	8.00	6.00	6.00
MAX	I	8.00	16.0	18.0	16.0	14.9	8.00	14.9	14.9
N	I	1.00	4.00	5.00	5.00	4.00	1.00	6.00	6.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	12.0	7.20	8.80	9.40	8.48		9.07	8.48
MIN	I	12.0	4.00	5.00	7.00	5.84		5.84	5.84
MAX	I	12.0	11.0	11.0	12.0	11.5		12.0	11.5
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	10.3	8.73	10.8	9.98	9.86	8.00	9.81	9.63
MIN	I	8.00	7.20	8.80	8.80	8.48	8.00	9.07	8.48
MAX	I	12.0	10.3	12.2	11.8	10.7	8.00	10.7	10.3
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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LOUISA                                      CALCULATION DATE: 86/06/18
COND25  Conductivity (25 C)

1983->84
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      29.0        28.8        29.0        29.5      29.2                     29.1        29.2
MIN   I      29.0        28.0        29.0        29.0      28.9                     28.9        28.9
MAX   I      29.0        29.0        29.0        30.0      29.4                     29.4        29.4
N     I      1.00        4.00        4.00        4.00      4.00                     5.00        5.00

1984->85
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      29.4        28.9        28.9        29.2      29.1        28.3         29.0        28.8
MIN   I      29.4        27.8        27.6        28.6      28.5        28.3         28.3        27.9
MAX   I      29.4        30.4        30.7        29.9      29.8        28.3         29.8        29.8
N     I      1.00        4.00        5.00        5.00      4.00        1.00         6.00        6.00

1985->86
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      27.9        27.6        28.2        28.1      27.9                     27.9        27.9
MIN   I      27.9        27.2        27.8        28.0      27.7                     27.7        27.7
MAX   I      27.9        27.9        29.6        28.4      28.3                     28.3        28.3
N     I      1.00        5.00        5.00        5.00      5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      28.8        28.4        28.7        28.9      28.7        28.3         28.7        28.6
MIN   I      27.9        27.6        28.2        28.1      27.9        28.3         27.9        27.9
MAX   I      29.4        28.9        29.0        29.5      29.2        28.3         29.1        29.2
N     I      3.00        3.00        3.00        3.00      3.00        1.00         3.00        3.00



DIC     Dissolved Inorganic Carbon  mg/L

1983->84
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.71       0.353       0.638        0.82     0.619                    0.637       0.629
MIN   I      0.71        0.30        0.36        0.74     0.501                    0.501       0.501
MAX   I      0.71        0.43        0.88        0.91     0.678                     0.71       0.678
N     I      1.00        4.00        4.00        4.00      4.00                     5.00        5.00

1984->85
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.67        0.39       0.834        1.06     0.756        0.81        0.751        0.76
MIN   I      0.67        0.34        0.61        0.83     0.643        0.81        0.643       0.643
MAX   I      0.67        0.49        1.44        1.33     0.897        0.81        0.897       0.897
N     I      1.00        5.00        5.00        5.00      5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.73       0.404        0.85       0.996     0.743                     0.74       0.743
MIN   I      0.73        0.34        0.65        0.79     0.683                    0.683       0.683
MAX   I      0.73        0.46        1.32        1.15     0.791                    0.791       0.791
N     I      1.00        5.00        4.00        5.00      4.00                     5.00        4.00

Overall summary of means
      I    SPRING                                        SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        EPI        META        HYPO     STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     0.703       0.382       0.774       0.959     0.706        0.81        0.709        0.71
MIN   I      0.67       0.353       0.638        0.82     0.619        0.81        0.637       0.629
MAX   I      0.73       0.404        0.85        1.06     0.756        0.81        0.751        0.76
N     I      3.00        3.00        3.00        3.00      3.00        1.00         3.00        3.00
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LOUISA CALCULATION DATE: 86/06/18
DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN	I	2.90	2.98	2.90	2.75	2.87		2.87	2.93
MIN	I	2.90	2.70	2.80	2.70	2.77		2.77	2.77
MAX	I	2.90	3.30	3.00	2.80	3.05		3.05	3.20
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.20	3.13	2.96	2.86	2.98	2.80	2.99	2.94
MIN	I	3.20	3.10	2.80	2.80	2.94	2.80	2.80	2.80
MAX	I	3.20	3.20	3.00	2.90	3.03	2.80	3.20	3.03
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.90	2.90	2.88	3.10	2.96		2.95	2.96
MIN	I	2.90	2.50	2.60	2.80	2.85		2.85	2.85
MAX	I	2.90	3.10	3.10	3.70	3.19		3.19	3.19
N	I	1.00	5.00	5.00	5.00	5.00		6.00	.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.00	3.00	2.91	2.90	2.94	2.80	2.94	2.95
MIN	I	2.90	2.90	2.88	2.75	2.87	2.80	2.87	2.93
MAX	I	3.20	3.13	2.96	3.10	2.98	2.80	2.99	2.96
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

FEUT Iron ug/L DETECTION LIMIT USED:5

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	20.0	25.0	17.5	15.0	18.6		18.9	26.9
MIN	I	20.0	15.0	10.0	10.0	11.6		11.6	11.6
MAX	I	20.0	35.0	25.0	20.0	25.5		25.5	60.0
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	60.0	40.4	37.4	41.4	39.4	55.0	44.6	44.6
MIN	I	60.0	25.0	30.0	30.0	31.1	55.0	31.1	31.1
MAX	I	60.0	50.0	50.0	60.0	48.3	55.0	60.0	60.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	60.0	15.6L	22.0	29.0	23.2L		29.4L	23.2L
MIN	I	60.0	5.00	5.00	10.0	7.32		7.32	7.32
MAX	I	60.0	35.0	47.0	58.0	50.2		60.0	50.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	46.7	27.0	25.6	28.5	27.1	55.0	30.9	31.6
MIN	I	20.0	15.6	17.5	15.0	18.6	55.0	18.9	23.2
MAX	I	60.0	40.4	37.4	41.4	39.4	55.0	44.6	44.6
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

LOUISA CALCULATION DATE: 86/06/18

FFIDUR Fluoride ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		48.1	47.8	48.0	48.0		48.0	48.1
MIN	I		46.5	46.3	45.7	46.2		46.2	46.2
MAX	I		50.5	48.6	49.2	49.5		49.5	49.5
N	I		3.00	3.00	3.00	3.00		3.00	4.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN	I	48.6	50.4	49.2	49.1	49.6	49.9	49.5	49.6
MIN	I	48.6	47.5	45.0	45.6	46.1	49.9	46.1	46.1
MAX	I	48.6	53.2	52.9	52.5	52.8	49.9	52.8	52.8
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	49.3	49.7	48.3	48.8	49.1		49.1	49.1
MIN	I	49.3	47.9	47.1	47.3	47.5		47.5	47.5
MAX	I	49.3	50.9	49.8	51.1	50.8		50.8	50.8
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	49.0	49.4	48.4	48.6	48.9	49.9	48.9	49.0
MIN	I	48.6	48.1	47.8	48.0	48.0	49.9	48.0	48.1
MAX	I	49.3	50.4	49.2	49.1	49.6	49.9	49.5	49.6
N	I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

KKUR Potassium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.52	0.48	0.47	0.475	0.475		0.484	0.474
MIN	I	0.52	0.46	0.44	0.46	0.455		0.455	0.455
MAX	I	0.52	0.50	0.50	0.50	0.50		0.52	0.50
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.0

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.47	0.474	0.474	0.478	0.476	0.48	0.476	0.479
MIN	I	0.47	0.46	0.47	0.47	0.467	0.48	0.467	0.467
MAX	I	0.47	0.49	0.48	0.49	0.488	0.48	0.488	0.49
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.49	0.492	0.48	0.49	0.489		0.49	0.489
MIN	I	0.49	0.46	0.45	0.46	0.458		0.458	0.458
MAX	I	0.49	0.53	0.52	0.52	0.525		0.525	0.525
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.493	0.482	0.475	0.481	0.48	0.48	0.483	0.481
MIN	I	0.47	0.474	0.47	0.475	0.475	0.48	0.476	0.474
MAX	I	0.52	0.492	0.48	0.49	0.489	0.48	0.49	0.489
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

LOUISA CALCULATION DATE: 86/06/18

MGUR Magnesium mg/L

1983->84

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.64	0.645	0.655	0.66	0.654		0.651	0.665
MIN	I	0.64	0.62	0.64	0.64	0.632		0.632	0.632
MAX	I	0.64	0.66	0.68	0.68	0.667		0.667	0.71
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.71	0.669	0.67	0.674	0.671	0.67	0.676	0.665
MIN	I	0.71	0.66	0.64	0.66	0.66	0.67	0.66	0.63
MAX	I	0.71	0.68	0.69	0.69	0.686	0.67	0.71	0.686
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.63	0.65	0.644	0.658	0.653		0.649	0.653
MIN	I	0.63	0.60	0.60	0.60	0.60		0.60	0.60
MAX	I	0.63	0.67	0.67	0.71	0.687		0.687	0.687
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.66	0.655	0.656	0.664	0.659	0.67	0.659	0.661
MIN	I	0.63	0.645	0.644	0.658	0.653	0.67	0.649	0.653
MAX	I	0.71	0.669	0.67	0.674	0.671	0.67	0.676	0.665
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

MNUT Manganese ug/L

1983->84

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	11.0	9.25	13.3	10.8	10.6		10.7	13.1
MIN	I	11.0	5.00	9.00	7.00	7.32		7.32	7.32
MAX	I	11.0	15.0	22.0	15.0	12.4		12.4	23.0
N	I	1.00	4.00	4.00	4.00	4.00		5.00	5.00

1984->85

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	23.0	15.0	19.3	16.0	15.5	33.0	19.0	20.0
MIN	I	23.0	9.00	12.0	10.0	12.0	33.0	12.0	12.0
MAX	I	23.0	18.0	33.5	35.0	24.3	33.0	33.0	33.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	30.0	11.2	17.3	14.2	12.8		16.2	12.8
MIN	I	30.0	7.00	16.0	11.0	11.8		11.8	11.8
MAX	I	30.0	16.0	21.0	19.0	14.6		30.0	14.6
N	I	1.00	5.00	4.00	5.00	4.00		5.00	4.00

Overall summary of means

	I I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	21.3	11.8	16.6	13.7	13.0	33.0	15.3	15.3
MIN	I	11.0	9.25	13.3	10.8	10.6	33.0	10.7	12.8
MAX	I	30.0	15.0	19.3	16.0	15.5	33.0	19.0	20.0
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
LOUISA                                          CALCULATION DATE: 86/06/18
NAUR     Sodium mg/L

1983->84
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       0.60        0.575        0.563        0.525       0.554                    0.563      0.569
MIN   I       0.60         0.50         0.55         0.50       0.523                    0.523      0.523
MAX   I       0.60         0.65         0.60         0.55       0.602                    0.602       0.63
N     I       1.00         4.00         4.00         4.00        4.00                     5.00       5.00

1984->85
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       0.63        0.616        0.612        0.612       0.613        0.62        0.617      0.615
MIN   I       0.63         0.61         0.60         0.59       0.599        0.62        0.599      0.599
MAX   I       0.63         0.63         0.62         0.63       0.629        0.62         0.63      0.629
N     I       1.00         5.00         5.00         5.00        5.00        1.00         7.00       7.00

1985->86
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       0.62        0.618        0.602        0.602       0.608                     0.61      0.608
MIN   I       0.62         0.60         0.59         0.56       0.582                    0.582      0.582
MAX   I       0.62         0.64         0.61         0.63       0.624                    0.624      0.624
N     I       1.00         5.00         5.00         5.00        5.00                     6.00       5.00

Overall summary of means
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I      0.617        0.603        0.592         0.58       0.592        0.62        0.597      0.597
MIN   I       0.60        0.575        0.563        0.525       0.554        0.62        0.563      0.569
MAX   I       0.63        0.618        0.612        0.612       0.613        0.62        0.617      0.615
N     I       3.00         3.00         3.00         3.00        3.00        1.00         3.00       3.00



NNHTFR   Ammonium as N  ug/L

1983->84
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       13.0         5.00         10.3         18.5        11.7                     12.0       11.4
MIN   I       13.0         2.00         3.00         18.0        9.55                     9.55       9.55
MAX   I       13.0         8.00         18.0         19.0        15.2                     15.2       15.2
N     I       1.00         4.00         4.00         4.00        4.00                     5.00       5.00

1984->85
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       10.0         4.50         15.8         14.2        10.9        4.00         9.79       10.1
MIN   I       10.0         2.00         6.00         7.00        5.98        4.00         4.00       4.00
MAX   I       10.0         9.00         23.0         19.0        16.1        4.00         16.1       16.1
N     I       1.00         5.00         5.00         5.00        5.00        1.00         7.00       7.00

1985->86
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       12.0         3.60         9.80         8.40        6.99                     7.83       6.99
MIN   I       12.0         2.00         5.00         2.00        2.76                     2.76       2.76
MAX   I       12.0         7.00         14.0         12.0        9.78                     12.0       9.78
N     I       1.00         5.00         5.00         5.00        5.00                     6.00       5.00

Overall summary of means
      I    SPRING                                              SUMMER       FALL          ICE    JUNE 1->
      I   OVERTURN          EPI         META         HYPO       STRAT    OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------------
MEAN  I       11.7         4.37         12.0         13.7        9.88        4.00         9.87       9.49
MIN   I       10.0         3.60         9.80         8.40        6.99        4.00         7.83       6.99
MAX   I       13.0         5.00         15.8         18.5        11.7        4.00         12.0       11.4
N     I       3.00         3.00         3.00         3.00        3.00        1.00         3.00       3.00
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LOUISA                                              CALCULATION DATE: 86/06/18
NNOTFR  Nitrate and Nitrite as N  ug/L

1983->84
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      156.        92.3         136.         160.         129.                      135.         129.
MIN  I      156.        40.0         123.         156.         109.                      109.         109.
MAX  I      156.        148.         146.         164.         150.                      156.         150.
N    I      1.00        4.00         4.00         4.00         4.00                      5.00         5.00

1984->85
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      125.        62.0         115.         151.         109.         120.         113.         120.
MIN  I      125.        40.0         100.         130.         102.         120.         102.         102.
MAX  I      125.        100.         150.         180.         117.         120.         125.         175.
N    I      1.00        5.00         5.00         5.00         5.00         1.00         7.00         7.00

1985->86
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      175.        110.         149.         182.         147.                      152.         147.
MIN  I      175.        75.0         122.         170.         129.                      129.         129.
MAX  I      175.        155.         175.         195.         168.                      175.         168.
N    I      1.00        5.00         5.00         5.00         5.00                      6.00         5.00

Overall summary of means
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      152.        88.1         134.         164.         129.         120.         133.         132.
MIN  I      125.        62.0         115.         151.         109.         120.         113.         120.
MAX  I      175.        110.         149.         182.         147.         120.         152.         147.
N    I      3.00        3.00         3.00         3.00         3.00         1.00         3.00         3.00



NNTKUR  Total Kjeldahl Nitrogen  ug/L

1983->84
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      190.        188.         181.         176.         180.                      182.         179.
MIN  I      190.        175.         165.         170.         170.                      170.         170.
MAX  I      190.        195.         200.         185.         191.                      191.         191.
N    I      1.00        4.00         4.00         4.00         4.00                      5.00         5.00

1984->85
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I. OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      175.        190.         192.         180.         187.         160.         181.         180.
MIN  I      175.        170.         170.         160.         175.         160.         160.         160.
MAX  I      175.        210.         210.         200.         195.         160.         195.         195.
N    I      1.00        5.00         5.00         5.00         5.00         1.00         7.00         7.00

1985->86
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      170.        180.         174.         180.         179.                      178.         179.
MIN  I      170.        150.         140.         130.         142.                      142.         142.
MAX  I      170.        200.         200.         230.         214.                      214.         214.
N    I      1.00        5.00         5.00         5.00         5.00                      6.00         5.00

Overall summary of means
     I   SPRING                                               SUMMER         FALL          ICE     JUNE 1->
     I  OVERTURN         EPI         META         HYPO         STRAT      OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN I      178.        186.         182.         179.         182.         160.         180.         180.
MIN  I      170.        180.         174.         176.         179.         160.         178.         179.
MAX  I      190.        190.         192.         180.         187.         160.         182.         180.
N    I      3.00        3.00         3.00         3.00         3.00         1.00         3.00         3.00
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LOUISA                                          CALCULATION DATE: 86/06/18
PH       pH

1983->84
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       5.89        6.31        6.00        5.85       6.04                       6.01       6.01
MIN   I       5.89        6.05        5.93        5.75       5.87                       5.87       5.86
MAX   I       5.89        6.52        6.15        5.90       6.14                       6.14       6.14
N     I       1.00        4.00        4.00        4.00       4.00                       5.00       5.00

1984->85
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       5.86        6.35        5.99        5.86       6.06        6.01           6.03       6.02
MIN   I       5.86        6.23        5.88        5.85       6.01        6.01           5.86       5.84
MAX   I       5.86        6.48        6.06        5.88       6.13        6.01           6.13       6.13
N     I       1.00        5.00        5.00        5.00       5.00        1.00           7.00       7.00

1985->86
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       5.84        6.28        5.95        5.80       6.01                       5.98       6.01
MIN   I       5.84        6.14        5.73        5.74       5.95                       5.84       5.95
MAX   I       5.84        6.42        6.03        5.91       6.07                       6.07       6.07
N     I       1.00        5.00        5.00        5.00       5.00                       6.00       5.00

Overall summary of means
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       5.86        6.31        5.98        5.84       6.04        6.01           6.01       6.01
MIN   I       5.84        6.28        5.95        5.80       6.01        6.01           5.98       6.01
MAX   I       5.89        6.35        6.00        5.86       6.06        6.01           6.03       6.02
N     I       3.00        3.00        3.00        3.00       3.00        1.00           3.00       3.00



PPUT     Total Phosphorous  ug/L

1983->84
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       4.70        3.33        4.36        3.63       3.85                       4.02       4.12
MIN   I       4.70        2.73        3.40        3.17       3.16                       3.16       3.16
MAX   I       4.70        3.73        5.63        4.00       4.69                       4.70       5.17
N     I       1.00        4.00        4.00        4.00       4.00                       5.00       5.00

1984->85
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       5.17        3.24        4.03        3.59       3.56        4.33           3.90       3.77
MIN   I       5.17        2.43        3.10        2.60       2.60        4.33           2.60       2.60
MAX   I       5.17        3.73        4.63        4.17       4.01        4.33           5.17       4.33
N     I       1.00        5.00        5.00        5.00       5.00        1.00           7.00       7.00

1985->86
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       4.27        3.26        4.25        4.24       3.99                       4.03       3.99
MIN   I       4.27        2.57        3.50        3.53       3.41                       3.41       3.41
MAX   I       4.27        4.50        5.43        5.60       5.00                       5.00       5.00
N     I       1.00        5.00        5.00        5.00       5.00                       6.00       5.00

Overall summary of means
      I    SPRING                                          SUMMER        FALL           ICE    JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------
MEAN  I       4.71        3.28        4.21        3.82       3.80        4.33           3.98       3.96
MIN   I       4.27        3.24        4.03        3.59       3.56        4.33           3.90       3.77
MAX   I       5.17        3.33        4.36        4.24       3.99        4.33           4.03       4.12
N     I       3.00        3.00        3.00        3.00       3.00        1.00           3.00       3.00
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LOUISA                                                CALCULATION DATE: 86/06/18
SIO3UR  Silicates  mg/L

1983->84
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        1.45     0.955        1.30        1.48          1.28                     1.31        1.32
MIN   I        1.45      0.12        1.13        1.39          1.02                     1.02        1.02
MAX   I        1.45      1.30        1.42        1.59          1.45                     1.45        1.47
N     I        1.00      4.00        4.00        4.00          4.00                     5.00        5.00

1984->85
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        1.47      1.08        1.30        1.41          1.25        1.11         1.26        1.24
MIN   I        1.47      0.84        1.24        1.32          1.12        1.11         1.11        1.11
MAX   I        1.47      1.22        1.39        1.45          1.32        1.11         1.47        1.32
N     I        1.00      5.00        5.00        5.00          5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        1.31      1.13        1.22        1.33          1.23                     1.24        1.23
MIN   I        1.31      1.07        1.12        1.27          1.17                     1.17        1.17
MAX   I        1.31      1.26        1.37        1.42          1.29                     1.31        1.29
N     I        1.00      5.00        5.00        5.00          5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        1.41      1.06        1.27        1.40          1.25        1.11         1.27        1.26
MIN   I        1.31     0.955        1.22        1.33          1.23        1.11         1.24        1.23
MAX   I        1.47      1.13        1.30        1.48          1.28        1.11         1.31        1.32
N     I        3.00      3.00        3.00        3.00          3.00        1.00         3.00        3.00
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SSO4UR  Sulphate as SO4  mg/L

1983->84
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        8.84      8.04        7.94        8.06          8.02                     8.18        8.02
MIN   I        8.84      8.00        7.79        7.94          7.95                     7.95        7.95
MAX   I        8.84      8.09        8.11        8.21          8.10                     8.84        8.10
N     I        1.00      4.00        4.00        4.00          4.00                     5.00        4.00

1984->85
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I                  7.78        7.76        7.86          7.82        7.78         7.81        7.75
MIN   I                  7.71        7.63        7.66          7.66        7.78         7.66        7.46
MAX   I                  7.85        7.84        8.12          7.95        7.78         7.95        7.95
N     I                  4.00        4.00        4.00          4.00        1.00         5.00        6.00

1985->86
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        7.46      7.48        7.40        7.38          7.43                     7.43        7.43
MIN   I        7.46      7.37        7.25        7.27          7.33                     7.33        7.33
MAX   I        7.46      7.73        7.57        7.53          7.62                     7.62        7.62
N     I        1.00      4.00        4.00        4.00          4.00                     5.00        4.00

Overall summary of means
      I    SPRING                                               SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN        EPI        META        HYPO         STRAT     OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I        8.15      7.77        7.70        7.77          7.75        7.78         7.81        7.73
MIN   I        7.46      7.48        7.40        7.38          7.43        7.78         7.43        7.43
MAX   I        8.84      8.04        7.94        8.06          8.02        7.78         8.18        8.02
N     I        2.00      3.00        3.00        3.00          3.00        1.00         3.00        3.00
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NUNIKANI
                                                Calculation date: 86/06/18

1983->84
            SPRING                                  SUMMER       FALL        ICE  JUNE 1->
         OVERTURN       EPI      META      HYPO      STRAT   OVERTURN       FREE    MAY 31
------------------------------------------------------------------------------------------
 START     830425    830521    830521    830521     830521     831101     830425    830601
   END     830520    831031    831031    831031     831031     831118     831118    840531

1984->85
            SPRING                                  SUMMER       FALL        ICE  JUNE 1->
         OVERTURN       EPI      META      HYPO      STRAT   OVERTURN       FREE    MAY 31
------------------------------------------------------------------------------------------
 START     840425    840521    840521    840521     840521     841106     840425    840601
   END     840520    841105    841105    841105     841105     841214     841214    850531

1985->86
            SPRING                                  SUMMER       FALL        ICE  JUNE 1->
         OVERTURN       EPI      META      HYPO      STRAT   OVERTURN       FREE    MAY 31
------------------------------------------------------------------------------------------
 START     850425    850513    850513    850513     850513     851120     850425    850601
   END     850512    851119    851119    851119     851119     851204     851204    860531



ALKTI   Alkalinity, TIA as CaCO3  mg/L

1983->84
      I   SPRING                                         SUMMER       FALL          ICE   JUNE 1->
      I OVERTURN           EPI        META        HYPO     STRAT   OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------
MEAN  I      1.30         1.66        1.48        1.54      1.57                    1.52       1.47
MIN   I      1.30         1.22        1.06        1.21      1.13                    1.13       1.01
MAX   I      1.30         1.87        1.82        2.06      1.87                    1.87       1.87
N     I      1.00         5.00        5.00        5.00      5.00                    6.00       6.00

1984->85
      I   SPRING                                         SUMMER       FALL          ICE   JUNE 1->
      I OVERTURN           EPI        META        HYPO     STRAT   OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------
MEAN  I      1.01         1.76        1.62        1.57      1.69       2.08         1.65       1.75
MIN   I      1.01         1.56        1.40        1.15      1.45       2.08         1.01       1.45
MAX   I      1.01         1.95        1.88        2.20      1.95       2.08         2.08       2.08
N     I      1.00         5.00        5.00        5.00      5.00       1.00         7.00       6.00

1985->86
      I   SPRING                                         SUMMER       FALL          ICE   JUNE 1->
      I OVERTURN           EPI        META        HYPO     STRAT   OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------
MEAN  I                   1.69        1.64        1.58      1.65                    1.65       1.65
MIN   I                   1.51        1.42        1.39      1.47                    1.47       1.47
MAX   I                   1.78        1.90        1.91      1.81                    1.81       1.81
N     I                   5.00        5.00        5.00      5.00                    5.00       5.00

Overall summary of means
      I   SPRING                                         SUMMER       FALL          ICE   JUNE 1->
      I OVERTURN           EPI        META        HYPO     STRAT   OVERTURN         FREE     MAY 31
----------------------------------------------------------------------------------------------------
MEAN  I      1.16         1.70        1.58        1.56      1.64       2.08         1.61       1.63
MIN   I      1.01         1.66        1.48        1.54      1.57       2.08         1.52       1.47
MAX   I      1.30         1.76        1.64        1.58      1.69       2.08         1.65       1.75
N     I      2.00         3.00        3.00        3.00      3.00       1.00         3.00       3.00
```

```
ALUT    Aluminum  ug/L

1983->84
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      37.8        12.8        32.4        43.0        23.6                     25.9         26.0
MIN   I      37.8        6.00        19.0        32.0        13.1                     13.1         13.1
MAX   I      37.8        19.0        43.0        58.0        35.0                     37.8         38.0
N     I      1.00        5.00        5.00        5.00        5.00                     6.00         6.00

1984->85
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      38.0        12.2        26.4        37.8        19.3        21.0         22.2         21.8
MIN   I      38.0        7.00        19.0        33.0        13.3        21.0         13.3         13.3
MAX   I      38.0        24.0        40.0        41.0        33.5        21.0         38.0         35.0
N     I      1.00        5.00        5.00        5.00        5.00        1.00         7.00         7.00

1985->86
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      35.0        9.80        27.8        44.0        19.5                     22.1         19.5
MIN   I      35.0        5.00        24.0        35.0        14.1                     14.1         14.1
MAX   I      35.0        18.0        33.0        58.0        24.5                     35.0         24.5
N     I      1.00        5.00        5.00        5.00        5.00                     6.00         5.00

Overall summary of means
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      36.9        11.6        28.9        41.6        20.8        21.0         23.4         22.4
MIN   I      35.0        9.80        26.4        37.8        19.3        21.0         22.1         19.5
MAX   I      38.0        12.8        32.4        44.0        23.6        21.0         25.9         26.0
N     I      3.00        3.00        3.00        3.00        3.00        1.00         3.00         3.00



CAUR    Calcium  mg/L

1983->84
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      2.66        2.65        2.60        2.60        2.63                     2.64         2.66
MIN   I      2.66        2.50        2.50        2.50        2.50                     2.50         2.50
MAX   I      2.66        2.90        2.80        2.80        2.86                     2.86         2.86
N     I      1.00        4.00        5.00        5.00        4.00                     5.00         5.00

1984->85
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      2.76        2.68        2.75        2.76        2.71        2.70         2.72         2.70
MIN   I      2.76        2.59        2.63        2.66        2.62        2.70         2.62         2.62
MAX   I      2.76        2.73        2.82        2.83        2.76        2.70         2.76         2.76
N     I      1.00        5.00        5.00        5.00        5.00        1.00         7.00         7.00

1985->86
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      2.63        2.64        2.68        2.71        2.66                     2.65         2.66
MIN   I      2.63        2.51        2.46        2.48        2.49                     2.49         2.49
MAX   I      2.63        2.69        2.80        2.85        2.71                     2.71         2.71
N     I      1.00        5.00        5.00        5.00        5.00                     6.00         5.00

Overall summary of means
      I    SPRING                                           SUMMER      FALL          ICE      JUNE 1->
      I   OVERTURN        EPI        META        HYPO        STRAT    OVERTURN        FREE       MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      2.68        2.66        2.68        2.69        2.67        2.70         2.67         2.67
MIN   I      2.63        2.64        2.60        2.60        2.63        2.70         2.64         2.66
MAX   I      2.76        2.68        2.75        2.76        2.71        2.70         2.72         2.70
N     I      3.00        3.00        3.00        3.00        3.00        1.00         3.00         3.00
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NUNIKANI CALCULATION DATE: 86/06/18

CLIDUR Chloride mg/L

1983->84

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	0.40	0.353	0.358	0.40	0.35		0.36	0.36
MIN I	0.40	0.29	0.28	0.32	0.305		0.305	0.305
MAX I	0.40	0.40	0.46	0.46	0.40		0.40	0.40
N I	1.00	4.00	5.00	5.00	4.00		5.00	5.00

1984->85

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	0.40	0.435	0.402	0.396	0.419	0.42	0.416	0.418
MIN I	0.40	0.41	0.38	0.37	0.398	0.42	0.398	0.398
MAX I	0.40	0.46	0.45	0.41	0.452	0.42	0.452	0.452
N I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	0.41	0.344	0.376	0.336	0.347		0.358	0.347
MIN I	0.41	0.19	0.33	0.24	0.231		0.231	0.231
MAX I	0.41	0.43	0.41	0.41	0.421		0.421	0.421
N I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	0.403	0.377	0.379	0.377	0.372	0.42	0.378	0.375
MIN I	0.40	0.344	0.358	0.336	0.347	0.42	0.358	0.347
MAX I	0.41	0.435	0.402	0.40	0.419	0.42	0.416	0.418
N I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

COLTR Colour (true)

1983->84

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	10.0	6.80	10.2	12.0	8.64		8.87	8.37
MIN I	10.0	3.00	7.00	8.00	5.79		5.79	5.79
MAX I	10.0	11.0	14.0	18.0	10.8		10.8	10.8
N I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	7.00	4.40	6.80	11.0	5.58	6.00	5.84	6.27
MIN I	7.00	2.00	2.00	2.00	2.00	6.00	2.00	2.00
MAX I	7.00	8.00	13.0	25.0	9.36	6.00	9.36	10.0
N I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	10.0	8.20	9.40	12.2	9.12		9.27	9.12
MIN I	10.0	5.00	6.00	9.00	5.95		5.95	5.95
MAX I	10.0	11.0	12.0	15.0	11.2		11.2	11.2
N I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	9.00	6.47	8.80	11.7	7.78	6.00	7.99	7.92
MIN I	7.00	4.40	6.80	11.0	5.58	6.00	5.84	6.27
MAX I	10.0	8.20	10.2	12.2	9.12	6.00	9.27	9.12
N I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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NUNIKANI                                              CALCULATION DATE: 86/06/16
COND25  Conductivity (25 C)

1983->84
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I       29.1         29.6         29.9         30.3          29.7                         29.6        29.7
MIN    I       29.1         29.0         29.0         30.0          29.1                         29.1        29.1
MAX    I       29.1         30.0         31.0         31.0          30.5                         30.5        30.5
N      I       1.00         5.00         5.00         5.00          5.00                         6.00        6.00

1984->85
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I       29.5         29.2         30.3         30.7          29.6         29.5            29.6        29.5
MIN    I       29.5         28.8         29.6         30.1          29.4         29.5            29.4        28.6
MAX    I       29.5         29.6         31.6         31.3          30.0         29.5            30.0        30.0
N      I       1.00         5.00         5.00         5.00          5.00         1.00            7.00        7.00

1985->86
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I       28.6         28.8         28.9         29.4          28.9                         28.8        28.9
MIN    I       28.6         28.6         28.7         29.1          28.8                         28.6        28.8
MAX    I       28.6         29.1         29.3         29.7          29.1                         29.1        29.1
N      I       1.00         5.00         5.00         5.00          5.00                         6.00        5.00

Overall summary of means
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I       29.1         29.2         29.7         30.2          29.4         29.5            29.4        29.4
MIN    I       28.6         28.8         28.9         29.4          28.9         29.5            28.8        28.9
MAX    I       29.5         29.6         30.3         30.7          29.7         29.5            29.6        29.7
N      I       3.00         3.00         3.00         3.00          3.00         1.00            3.00        3.00


DIC     Dissolved Inorganic Carbon  mg/L

1983->84
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I      0.727        0.504         1.07         1.81         0.823                        0.807       0.784
MIN    I      0.727         0.45         0.63         1.28         0.658                        0.658        0.59
MAX    I      0.727         0.55         1.71         2.63          1.01                         1.01        1.01
N      I       1.00         5.00         5.00         5.00          5.00                         6.00        6.00

1984->85
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I       0.59        0.518         1.12         1.95         0.822         1.02           0.816       0.858
MIN    I       0.59         0.44         0.64         1.15         0.618         1.02            0.59       0.618
MAX    I       0.59         0.68         2.02         2.89          1.06         1.02            1.06        1.06
N      I       1.00         4.00         5.00         5.00          4.00         1.00            6.00        6.00

1985->86
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I       0.84         0.47        0.993         1.48          0.75                        0.768        0.75
MIN    I       0.84         0.38         0.63         1.03         0.582                        0.582       0.582
MAX    I       0.84         0.53         1.37         2.29         0.957                        0.957       0.957
N      I       1.00         4.00         4.00         5.00          4.00                         5.00        4.00

Overall summary of means
       I    SPRING                                                 SUMMER        FALL            ICE     JUNE 1->
       I   OVERTURN          EPI          META         HYPO         STRAT      OVERTURN          FREE      MAY 31
---------------------------------------------------------------------------------------------------------------------
MEAN   I      0.719        0.497         1.06         1.75         0.798         1.02           0.797       0.797
MIN    I       0.59         0.47        0.993         1.48          0.75         1.02           0.768        0.75
MAX    I       0.84        0.518         1.12         1.95         0.823         1.02           0.816       0.858
N      I       3.00         3.00         3.00         3.00          3.00         1.00            3.00        3.00
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NUNIKANI CALCULATION DATE: 86/06/18

DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.44	2.43	2.48	2.40	2.42		2.43	2.46
MIN	I	2.44	2.30	2.20	2.20	2.22		2.22	2.22
MAX	I	2.44	2.60	2.80	2.60	2.67		2.67	2.67
N	I	1.00	4.00	5.00	5.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.60	2.68	2.62	2.46	2.64	2.50	2.61	2.61
MIN	I	2.60	2.60	2.50	2.40	2.58	2.50	2.50	2.50
MAX	I	2.60	2.80	2.70	2.50	2.68	2.50	2.68	2.68
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.60	2.50	2.60	2.42	2.52		2.53	2.52
MIN	I	2.60	2.40	2.40	2.20	2.37		2.37	2.37
MAX	I	2.60	2.60	3.00	2.80	2.75		2.75	2.75
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.55	2.54	2.57	2.43	2.53	2.50	2.52	2.53
MIN	I	2.44	2.43	2.48	2.40	2.42	2.50	2.43	2.46
MAX	I	2.60	2.68	2.62	2.46	2.64	2.50	2.61	2.61
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

FEUT Iron ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	18.9	23.8	40.0	138.	26.7		25.2	44.4
MIN	I	18.9	10.0	15.0	20.0	18.6		18.6	18.6
MAX	I	18.9	35.0	95.0	450.	37.4		37.4	11[illegible].
N	I	1.00	4.00	5.00	5.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	115.	50.0	73.0	211.	68.2	235.	98.7	93.7
MIN	I	115.	45.0	45.0	50.0	48.4	235.	48.4	48.4
MAX	I	115.	55.0	145.	585.	112.	235.	235.	235.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	80.0	27.4	49.2	96.6	42.9		49.1	42.9
MIN	I	80.0	16.0	10.0	20.0	17.0		17.0	17.0
MAX	I	80.0	64.0	111.	280.	77.1		80.0	77.1
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	71.3	33.7	54.1	149.	45.9	235.	57.6	60.3
MIN	I	18.9	23.8	40.0	96.6	26.7	235.	25.2	42.9
MAX	I	115.	50.0	73.0	211.	68.2	235.	98.7	93.7
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NUNIKANI CALCULATION DATE: 86/06/18

FFIDUR Fluoride ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		49.5	47.3	49.0	48.8		48.8	48.7
MIN	I		47.5	46.5	46.0	47.8		47.8	47.8
MAX	I		51.2	48.0	50.8	49.8		49.8	49.8
N	I		3.00	3.00	3.00	2.00		2.00	3.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	48.6	51.6	50.2	50.9	50.9	52.5	50.8	50.9
MIN	I	48.6	50.2	49.1	48.5	49.5	52.5	48.6	48.8
MAX	I	48.6	53.3	52.1	53.6	52.7	52.5	52.7	52.7
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	48.8	51.7	48.8	49.6	50.7		50.3	50.7
MIN	I	48.8	49.7	46.5	46.5	48.3		48.3	48.3
MAX	I	48.8	53.6	49.8	52.1	52.2		52.2	52.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	48.7	50.9	48.8	49.8	50.1	52.5	50.0	50.1
MIN	I	48.6	49.5	47.3	49.0	48.8	52.5	48.8	48.7
MAX	I	48.8	51.7	50.2	50.9	50.9	52.5	50.8	50.9
N	I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

KKUR Potassium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.532	0.525	0.50	0.48	0.509		0.513	0.501
MIN	I	0.532	0.52	0.50	0.40	0.495		0.495	0.47
MAX	I	0.532	0.54	0.50	0.52	0.522		0.532	0.522
N	I	1.00	4.00	5.00	5.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.47	0.544	0.518	0.518	0.531		0.521	0.524
MIN	I	0.47	0.53	0.50	0.50	0.517		0.47	0.49
MAX	I	0.47	0.57	0.53	0.53	0.546		0.546	0.546
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.49	0.514	0.518	0.51	0.515		0.511	0.515
MIN	I	0.49	0.49	0.48	0.48	0.491		0.49	0.491
MAX	I	0.49	0.57	0.54	0.53	0.559		0.559	0.559
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.497	0.528	0.512	0.503	0.518		0.515	0.514
MIN	I	0.47	0.514	0.50	0.48	0.509		0.511	0.501
MAX	I	0.532	0.544	0.518	0.518	0.531		0.521	0.524
N	I	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00

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NUNIKANI                                            CALCULATION DATE: 86/06/18
MGUR    Magnesium  mg/L

1983->84
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I      0.577        0.66         0.628        0.632        0.647                       0.633        0.652
MIN   I      0.577        0.64         0.60         0.62         0.631                       0.577        0.631
MAX   I      0.577        0.70         0.66         0.64         0.674                       0.674        0.674
N     I       1.00        4.00         5.00         5.00         4.00                         5.00         5.00

1984->85
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I       0.67        0.683        0.678        0.684        0.681        0.68           0.679        0.675
MIN   I       0.67        0.67         0.65         0.67         0.66         0.68           0.66         0.64
MAX   I       0.67        0.70         0.70         0.70         0.70         0.68           0.70         0.70
N     I       1.00        5.00         5.00         5.00         5.00         1.00           7.00         7.00

1985->86
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1-
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I       0.64        0.656        0.65         0.652        0.655                       0.652        0.655
MIN   I       0.64        0.63         0.62         0.62         0.626                       0.626        0.626
MAX   I       0.64        0.68         0.67         0.67         0.668                       0.668        0.668
N     I       1.00        5.00         5.00         5.00         5.00                         6.00         5.00

Overall summary of means
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I      0.629        0.666        0.652        0.656        0.661        0.68           0.655         0.66
MIN   I      0.577        0.656        0.628        0.632        0.647        0.68           0.633        0.652
MAX   I       0.67        0.683        0.678        0.684        0.681        0.68           0.679        0.679
N     I       3.00        3.00         3.00         3.00         3.00         1.00           3.00         3.00



MNUT    Manganese  ug/L

1983->84
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I       7.93        7.00         25.8         44.6         11.8                         11.0         14.0
MIN   I       7.93        4.00         9.00         7.00         7.22                         7.22         7.22
MAX   I       7.93        10.0         67.0         120.         21.1                         21.1         25.0
N     I       1.00        4.00         5.00         5.00         4.00                         5.00         5.00

1984->85
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I       23.0        12.2         35.0         59.2         21.7         47.0          25.5         25.6
MIN   I       23.0        6.00         13.0         10.0         11.1         47.0          11.1         11.1
MAX   I       23.0        20.0         86.0         145.         39.9         47.0          47.0         47.0
N     I       1.00        5.00         5.00         5.00         5.00         1.00          7.00         7.00

1985->86
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I       24.0        8.00         22.0         31.4         14.3                         15.9         14.3
MIN   I       24.0        5.00         8.00         8.00         8.63                         8.63         8.63
MAX   I       24.0        11.0         43.0         73.0         26.5                         26.5         26.5
N     I       1.00        5.00         5.00         5.00         5.00                         6.00         5.00

Overall summary of means
      I    SPRING                                                  SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN         EPI          META         HYPO         STRAT      OVERTURN         FREE       MAY 31
-------------------------------------------------------------------------------------------------------------------
MEAN  I       18.3        9.07         27.6         45.1         15.9         47.0          17.5         18.0
MIN   I       7.93        7.00         22.0         31.4         11.8         47.0          11.0         14.0
MAX   I       24.0        12.2         35.0         59.2         21.7         47.0          25.5         25.6
N     I       3.00        3.00         3.00         3.00         3.00         1.00          3.00         3.00
```

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NUNIKANI                                        CALCULATION DATE: 86/06/18
NAUR    Sodium  mg/L

1983->84
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        0.58      0.563          0.54          0.54        0.553                     0.559         0.565
MIN    I        0.58       0.50          0.50          0.50        0.512                     0.512         0.512
MAX    I        0.58       0.65          0.60          0.55        0.623                     0.623         0.623
N      I        1.00       4.00          5.00          5.00         4.00                      5.00          5.00

1984->85
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        0.61      0.622         0.602         0.598        0.612          0.62       0.613         0.609
MIN    I        0.61       0.61          0.59          0.59        0.603          0.62       0.603          0.58
MAX    I        0.61       0.63          0.61          0.61        0.626          0.62       0.626         0.626
N      I        1.00       5.00          5.00          5.00         5.00          1.00        7.00          7.00

1985->86
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        0.58      0.588          0.60          0.58        0.591                     0.589         0.591
MIN    I        0.58       0.57          0.55          0.54        0.562                     0.562         0.562
MAX    I        0.58       0.62          0.69          0.62        0.632                     0.632         0.632
N      I        1.00       5.00          5.00          5.00         5.00                      6.00          5.00

Overall summary of means
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        0.59      0.591         0.581         0.573        0.585          0.62       0.587         0.588
MIN    I        0.58      0.563          0.54          0.54        0.553          0.62       0.559         0.565
MAX    I        0.61      0.622         0.602         0.598        0.612          0.62       0.613         0.609
N      I        3.00       3.00          3.00          3.00         3.00          1.00        3.00          3.00



NNHTFR  Ammonium as N  ug/L

1983->84
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        11.7       4.60          15.6          18.0         10.0                      10.3          8.71
MIN    I       .11.7       1.00          9.00          1.00         5.31                      5.31          2.00
MAX    I        11.7       10.0          22.0          34.0         14.0                      14.0          14.0
N      I        1.00       5.00          5.00          5.00         5.00                      6.00          6.00

1984->85
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        2.00       5.60          11.6          24.8         9.53          6.00        7.95          8.95
MIN    I        2.00       3.00          7.00          2.00         5.42          6.00        2.00          5.42
MAX    I        2.00       10.0          15.0          55.0         12.7          6.00        12.7          12.7
N      I        1.00       5.00          5.00          5.00         5.00          1.00        7.00          7.00

1985->86
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        9.00       4.20          14.0          19.8         8.77                      8.80          8.77
MIN    I        9.00       2.00          5.00          3.00         5.02                      5.02          5.02
MAX    I        9.00       7.00          29.0          31.0         12.2                      12.2          12.2
N      I        1.00       5.00          5.00          5.00         5.00                      6.00          5.00

Overall summary of means
       I     SPRING                                                SUMMER         FALL         ICE      JUNE 1->
       I   OVERTURN         EPI          META          HYPO        STRAT      OVERTURN        FREE        MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I        7.58       4.80          13.7          20.9         9.45          6.00        9.03          8.81
MIN    I        2.00       4.20          11.6          18.0         8.77          6.00        7.95          8.71
MAX    I        11.7       5.60          15.6          24.8         10.0          6.00        10.3          8.95
N      I        3.00       3.00          3.00          3.00         3.00          1.00        3.00          3.00
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NUNIKANI CALCULATION DATE: 86/06/18

NNOTFR Nitrate and Nitrite as N ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	144.	64.6	120.	179.	93.7		102.	97.2
MIN	I	144.	30.0	103.	147.	74.6		74.6	74.6
MAX	I	144.	120.	143.	225.	126.		144.	126.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	115.	52.0	114.	180.	81.5	100.	88.9	95.3
MIN	I	115.	30.0	90.0	130.	67.9	100.	67.9	67.9
MAX	I	115.	70.0	195.	245.	94.8	100.	115.	160.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	160.	84.0	115.	192.	109.		117.	109.
MIN	I	160.	50.0	100.	155.	88.7		88.7	88.7
MAX	I	160.	115.	140.	240.	129.		160.	129.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	140.	66.9	118.	184.	94.6	100.	103.	100.
MIN	I	115.	52.0	114.	179.	81.5	100.	88.9	95.3
MAX	I	160.	84.0	120.	192.	109.	100.	117.	109.
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NNTKUR Total Kjeldahl Nitrogen ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	171.	171.	167.	173.	169.		170.	165.
MIN	I	171.	160.	160.	170.	163.		163.	145.
MAX	I	171.	190.	180.	180.	185.		185.	185.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	145.	196.	206.	184.	198.	190.	190.	196.
MIN	I	145.	190.	160.	160.	174.	190.	145.	174.
MAX	I	145.	210.	280.	210.	220.	190.	220.	220.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	190.	182.	182.	182.	181.		183.	182.
MIN	I	190.	160.	160.	140.	159.		159.	159.
MAX	I	190.	210.	210.	230.	210.		210.	210.
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	169.	183.	185.	180.	183.	190.	181.	182.
MIN	I	145.	171.	167.	173.	169.	190.	170.	165.
MAX	I	190.	196.	206.	184.	198.	190.	190.	196.
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NUNIKANI CALCULATION DATE: 86/06/18

PH pH

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	6.12	6.41	5.96	5.73	6.22		6.20	6.20
MIN	I	6.12	6.18	5.82	5.63	6.18		6.12	6.11
MAX	I	6.12	6.58	6.19	5.80	6.24		6.24	6.24
N	I	1.00	5.00	4.00	5.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	6.11	6.46	6.04	5.74	6.25	6.21	6.23	6.21
MIN	I	6.11	6.32	5.77	5.59	6.18	6.21	6.11	5.99
MAX	I	6.11	6.61	6.20	5.91	6.33	6.21	6.33	6.33
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	5.99	6.40	6.04	5.75	6.22		6.18	6.22
MIN	I	5.99	6.30	5.92	5.64	6.17		5.99	6.17
MAX	I	5.99	6.49	6.17	5.86	6.27		6.27	6.27
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	6.07	6.42	6.01	5.74	6.23	6.21	6.20	6.21
MIN	I	5.99	6.40	5.96	5.73	6.22	6.21	6.18	6.20
MAX	I	6.12	6.46	6.04	5.75	6.25	6.21	6.23	6.22
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

PPUT Total Phosphorous ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	5.29	3.72	4.89	5.75	4.32		4.48	4.36
MIN	I	5.29	3.43	3.93	4.77	4.10		4.10	4.10
MAX	I	5.29	4.00	5.73	7.03	4.69		5.29	4.69
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	4.53	3.88	4.57	5.44	4.20	4.63	4.31	4.35
MIN	I	4.53	2.97	4.20	4.80	3.60	4.63	3.60	3.60
MAX	I	4.53	4.50	5.17	6.45	4.65	4.63	4.65	4.77
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	4.77	3.62	4.47	6.64	4.12		4.28	4.12
MIN	I	4.77	2.80	3.70	6.15	3.79		3.79	3.79
MAX	I	4.77	4.50	5.37	7.05	4.36		4.77	4.36
N	I	1.00	5.00	4.00	4.00	3.00		4.00	3.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	4.86	3.74	4.64	5.94	4.21	4.63	4.36	4.27
MIN	I	4.53	3.62	4.47	5.44	4.12	4.63	4.28	4.12
MAX	I	5.29	3.88	4.89	6.64	4.32	4.63	4.48	4.36
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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NUNIKANI                                              CALCULATION DATE: 86/06/18
SIO3UR  Silicates  mg/L

1983->84
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      0.979         0.72        0.858          1.19        0.816                     0.849       0.859
MIN     I      0.979         0.63         0.76          1.04        0.758                     0.758       0.758
MAX     I      0.979         0.82         0.93          1.30         0.88                     0.979        1.03
N       I       1.00         4.00         5.00          5.00         4.00                      5.00        5.00

1984->85
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       1.03        0.576         0.80          1.23        0.698        0.68         0.743       0.732
MIN     I       1.03         0.45         0.58          1.10        0.589        0.68         0.589       0.589
MAX     I       1.03         0.76         1.05          1.35        0.856        0.68          1.03        0.95
N       I       1.00         5.00         5.00          5.00         5.00        1.00          7.00        7.00

1985->86
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       0.95        0.672         0.80          1.04        0.758                      0.79       0.758
MIN     I       0.95         0.61         0.74          0.97        0.702                     0.702       0.702
MAX     I       0.95         0.77         0.88          1.21        0.833                      0.95       0.833
N       I       1.00         5.00         5.00          5.00         5.00                      6.00        5.00

Overall summary of means
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      0.986        0.656        0.819          1.15        0.758        0.68         0.794       0.783
MIN     I       0.95        0.576         0.80          1.04        0.698        0.68         0.743       0.732
MAX     I       1.03         0.72        0.858          1.23        0.816        0.68         0.849       0.859
N       I       3.00         3.00         3.00          3.00         3.00        1.00          3.00        3.00


SSO4UR  Sulphate as SO4  mg/L

1983->84
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       7.76         8.06         7.83          7.74         7.96                      7.92        7.96
MIN     I       7.76         7.80         7.70          7.45         7.83                      7.76        7.83
MAX     I       7.76         8.24         8.03          7.95         8.11                      8.11        8.11
N       I       1.00         4.00         5.00          5.00         4.00                      5.00        4.00

1984->85
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I                    7.94         7.88          7.66         7.91        7.50          7.83        7.80
MIN     I                    7.63         7.59          7.17         7.57        7.50          7.50        7.50
MAX     I                    8.18         8.07          8.16         8.07        7.50          8.07        8.07
N       I                    4.00         4.00          4.00         4.00        1.00          5.00        6.00

1985->86
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       7.65         7.71         7.54          7.45         7.63                      7.63        7.63
MIN     I       7.65         7.59         7.48          7.07         7.49                      7.49        7.49
MAX     I       7.65         7.82         7.69          7.80         7.78                      7.78        7.78
N       I       1.00         4.00         4.00          4.00         4.00                      5.00        4.00

Overall summary of means
        I     SPRING                                               SUMMER       FALL          ICE    JUNE 1->
        I   OVERTURN          EPI         META          HYPO        STRAT    OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I       7.70         7.90         7.75          7.62         7.83        7.50          7.79        7.80
MIN     I       7.65         7.71         7.54          7.45         7.63        7.50          7.63        7.63
MAX     I       7.76         8.06         7.88          7.74         7.96        7.50          7.92        7.96
N       I       2.00         3.00         3.00          3.00         3.00        1.00          3.00        3.00
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SHERBORNE

Calculation date: 86/06/18

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	830521	830521	830521	831101	830425	830601
END	830520	831031	831031	831031	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	840521	840521	840521	841106	840425	840601
END	840520	841105	841105	841105	841105	841214	841214	850531

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	850513	850513	850513	851120	850425	850601
END	850512	851119	851119	851119	851119	851204	851204	860531

ALKTI Alkalinity, TIA as CaCO3 mg/L

1983->84

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.02	1.11	1.36	1.32	1.22	1.46	1.23	1.20
MIN	I	1.02	0.92	0.88	1.18	0.928	1.46	0.928	0.85
MAX	I	1.02	1.27	1.75	1.58	1.44	1.46	1.46	1.46
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.85	1.06	1.35	1.21	1.18	1.46	1.17	1.27
MIN	I	0.85	0.48	1.07	0.86	0.811	1.46	0.811	0.811
MAX	I	0.85	1.38	1.77	1.55	1.46	1.46	1.46	1.56
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.56	1.12	1.28	1.12	1.14		1.22	1.14
MIN	I	1.56	0.97	1.07	0.98	1.01		1.01	1.01
MAX	I	1.56	1.25	1.62	1.20	1.28		1.56	1.28
N	I	1.00	5.00	4.00	5.00	4.00		5.00	4.00

Overall summary of means

		SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.14	1.09	1.33	1.22	1.18	1.46	1.21	1.20
MIN	I	0.85	1.06	1.28	1.12	1.14	1.46	1.17	1.14
MAX	I	1.56	1.12	1.36	1.32	1.22	1.46	1.23	1.27
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

```
SHERBORNE                                  CALCULATION DATE: 86/06/18
ALUT    Aluminum  ug/L

1983->84
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      57.1       19.8       36.0       44.4       28.3       22.5        31.6       29.2
MIN  I      57.1       6.00       21.0       18.0       16.2       22.5        16.2       16.2
MAX  I      57.1       48.0       58.0       67.0       38.9       22.5        57.1       40.0
N    I      1.00       5.00       5.00       5.00       5.00       1.00        7.00       7.00

1984->85
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      40.0       22.8       29.2       38.6       26.5       21.0        27.7       28.8
MIN  I      40.0       9.00       23.0       24.0       18.2       21.0        18.2       18.2
MAX  I      40.0       48.0       35.0       46.0       35.9       21.0        40.0       48.0
N    I      1.00       5.00       5.00       5.00       5.00       1.00        7.00       7.00

1985->86
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      48.0       15.4       38.0       50.6       28.9                    32.1       28.9
MIN  I      48.0       4.00       31.0       46.0       19.2                    19.2       19.2
MAX  I      48.0       35.0       45.0       56.0       40.0                    48.0       40.0
N    I      1.00       5.00       5.00       5.00       5.00                    6.00       5.00

Overall summary of means
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      48.4       19.3       34.4       44.5       27.9       21.8        30.5       29.0
MIN  I      40.0       15.4       29.2       38.6       26.5       21.0        27.7       28.8
MAX  I      57.1       22.8       38.0       50.6       28.9       22.5        32.1       29.2
N    I      3.00       3.00       3.00       3.00       3.00       2.00        3.00       3.00



CAUR    Calcium  mg/L

1983->84
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      2.40       2.26       2.34       2.42       2.31       2.31        2.32       2.35
MIN  I      2.40       2.10       2.20       2.30       2.18       2.31        2.18       2.18
MAX  I      2.40       2.40       2.50       2.70       2.43       2.31        2.43       2.50
N    I      1.00       5.00       5.00       5.00       5.00       1.00        7.00       7.00

1984->85
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      2.56       2.41       2.50       2.54       2.46       2.50        2.48       2.46
MIN  I      2.56       2.38       2.44       2.36       2.40       2.50        2.40       2.40
MAX  I      2.56       2.43       2.56       2.63       2.48       2.50        2.56       2.50
N    I      1.00       5.00       5.00       5.00       5.00       1.00        7.00       7.00

1985->86
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      2.40       2.41       2.47       2.51       2.45                    2.44       2.45
MIN  I      2.40       2.23       2.23       2.28       2.24                    2.24       2.24
MAX  I      2.40       2.48       2.59       2.68       2.54                    2.54       2.54
N    I      1.00       5.00       5.00       5.00       5.00                    6.00       5.00

Overall summary of means
     I    SPRING                                      SUMMER       FALL          ICE    JUNE 1->
     I   OVERTURN      EPI       META       HYPO      STRAT      OVERTURN        FREE     MAY 31
------------------------------------------------------------------------------------------------
MEAN I      2.45       2.36       2.44       2.49       2.41       2.41        2.41       2.42
MIN  I      2.40       2.26       2.34       2.42       2.31       2.31        2.32       2.35
MAX  I      2.56       2.41       2.50       2.54       2.46       2.50        2.48       2.46
N    I      3.00       3.00       3.00       3.00       3.00       2.00        3.00       3.00
```

SHERBORNE CALCULATION DATE: 86/06/18

CLIDUR Chloride mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.36	0.408	0.388	0.344	0.383	0.363	0.377	0.371
MIN	I	0.36	0.29	0.30	0.26	0.295	0.363	0.295	0.295
MAX	I	0.36	0.70	0.45	0.40	0.505	0.363	0.505	0.505
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.32	0.362	0.398	0.364	0.374	0.38	0.367	0.37
MIN	I	0.32	0.34	0.34	0.33	0.341	0.38	0.32	0.34
MAX	I	0.32	0.40	0.49	0.40	0.442	0.38	0.442	0.442
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.34	0.288	0.292	0.282	0.289		0.297	0.289
MIN	I	0.34	0.20	0.22	0.11	0.19		0.19	0.19
MAX	I	0.34	0.35	0.34	0.36	0.348		0.348	0.348
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.34	0.353	0.359	0.33	0.349	0.372	0.347	0.343
MIN	I	0.32	0.288	0.292	0.282	0.289	0.363	0.297	0.289
MAX	I	0.36	0.408	0.398	0.364	0.383	0.38	0.377	0.371
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

COLTR Colour (true)

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	9.75	7.80	10.6	13.0	9.61	8.58	9.48	9.23
MIN	I	9.75	4.00	7.00	10.0	6.20	8.58	6.20	6.20
MAX	I	9.75	13.0	14.0	18.0	13.3	8.58	13.3	13.3
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	8.00	4.90	6.60	8.00	5.91	4.00	5.93	6.65
MIN	I	8.00	1.50	3.00	3.00	3.00	4.00	3.00	3.00
MAX	I	8.00	11.0	10.0	13.0	11.1	4.00	11.1	13.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	13.0	6.40	10.2	9.60	8.15		8.96	8.15
MIN	I	13.0	1.00	7.00	6.00	3.93		3.93	3.93
MAX	I	13.0	9.00	12.0	12.0	10.5		13.0	10.5
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	10.3	6.37	9.13	10.2	7.89	6.29	8.13	8.01
MIN	I	8.00	4.90	6.60	8.00	5.91	4.00	5.93	6.65
MAX	I	13.0	7.80	10.6	13.0	9.61	8.58	9.48	9.23
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

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SHERBORNE                                   CALCULATION DATE: 86/06/18
COND25  Conductivity (25 C)

1983->84
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I       26.9         27.0         28.0          28.5       27.7         26.8          27.4       27.5
MIN   I       26.9         26.0         27.0          28.0       26.8         26.8          26.8       26.8
MAX   I       26.9         29.2         29.8          29.3       29.4         26.8          29.4       29.4
N     I       1.00         5.00         5.00          5.00       5.00         1.00          7.00       7.00

1984->85
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I       27.6         26.5         27.6          28.5       27.1         27.1          27.2       27.0
MIN   I       27.6         26.2         26.9          27.7       27.0         27.1          27.0       26.6
MAX   I       27.6         27.0         28.4          29.1       27.2         27.1          27.6       27.2
N     I       1.00         5.00         4.00          5.00       4.00         1.00          6.00       6.00

1985->86
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I       26.6         25.6         26.8          27.1       26.2                       26.3       26.2
MIN   I       26.6         25.4         26.4          26.8       26.1                       26.1       26.1
MAX   I       26.6         25.9         27.4          27.4       26.3                       26.6       26.3
N     I       1.00         5.00         5.00          5.00       5.00                       6.00       5.00

Overall summary of means
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I       27.0         26.4         27.4          28.0       27.0         26.9          27.0       26.9
MIN   I       26.6         25.6         26.8          27.1       26.2         26.8          26.3       26.2
MAX   I       27.6         27.0         28.0          28.5       27.7         27.1          27.4       27.5
N     I       3.00         3.00         3.00          3.00       3.00         2.00          3.00       3.00



DIC     Dissolved Inorganic Carbon  mg/L

1983->84
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I      0.826        0.396         1.05          1.61      0.834        0.904         0.843      0.835
MIN   I      0.826        0.35          0.75          1.37      0.741        0.904         0.741      0.741
MAX   I      0.826        0.44          1.68          2.04      0.926        0.904         0.926      0.926
N     I       1.00         5.00         5.00          5.00       5.00         1.00          7.00       7.00

1984->85
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I       0.77        0.378         1.03          1.76      0.814         1.07         0.844      0.876
MIN   I       0.77         0.26         0.59          1.33      0.698         1.07         0.698      0.698
MAX   I       0.77         0.50         1.77          2.17       0.98         1.07          1.07       1.07
N     I       1.00         5.00         5.00          5.00       5.00         1.00          7.00       7.00

1985->86
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I       0.99        0.482         1.08          1.47      0.841                       0.87      0.841
MIN   I       0.99         0.37         0.78          1.13      0.708                      0.708      0.708
MAX   I       0.99         0.69         1.51          1.80      0.926                       0.99      0.926
N     I       1.00         5.00         4.00          5.00       4.00                       5.00       4.00

Overall summary of means
      I   SPRING                                               SUMMER        FALL           ICE    JUNE 1->
      I  OVERTURN          EPI          META          HYPO      STRAT     OVERTURN          FREE     MAY 31
---------------------------------------------------------------------------------------------------------------
MEAN  I      0.862        0.419         1.05          1.61      0.829        0.987         0.852       0.85
MIN   I       0.77        0.378         1.03          1.47      0.814        0.904         0.843      0.835
MAX   I       0.99        0.482         1.08          1.76      0.841         1.07          0.87      0.876
N     I       3.00         3.00         3.00          3.00       3.00         2.00          3.00
```

SHERBORNE CALCULATION DATE: 86/06/18

DOC Dissolved Organic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.24	2.56	2.36	2.16	2.41	2.17	2.35	2.36
MIN	I	2.24	2.40	2.20	2.00	2.25	2.17	2.17	2.17
MAX	I	2.24	2.70	2.50	2.40	2.58	2.17	2.58	2.58
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.30	2.73	2.38	2.22	2.52	2.40	2.47	2.50
MIN	I	2.30	2.70	2.20	2.10	2.48	2.40	2.30	2.40
MAX	I	2.30	2.80	2.50	2.30	2.55	2.40	2.55	2.55
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.50	2.34	2.28	2.16	2.29		2.32	2.29
MIN	I	2.50	2.20	2.10	2.00	2.19		2.19	2.19
MAX	I	2.50	2.40	2.40	2.30	2.38		2.50	2.38
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.35	2.54	2.34	2.18	2.41	2.29	2.38	2.38
MIN	I	2.24	2.34	2.28	2.16	2.29	2.17	2.32	2.29
MAX	I	2.50	2.73	2.38	2.22	2.52	2.40	2.47	2.50
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

FEUT Iron ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	79.3	25.0	58.0	153.	55.4	127.	69.1	90.6
MIN	I	79.3	15.0	30.0	90.0	36.1	127.	36.1	36.1
MAX	I	79.3	35.0	130.	332.	98.3	127.	127.	[illegible]
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	230.	45.0	66.0	147.	70.0	195.	111.	96.4
MIN	I	230.	30.0	50.0	100.	55.2	195.	55.2	55.2
MAX	I	230.	55.0	90.0	280.	97.7	195.	230.	195.
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	130.	21.6	39.6	75.2	36.8		52.3	36.8
MIN	I	130.	8.00	29.0	34.0	20.1		20.1	20.1
MAX	I	130.	47.0	58.0	110.	58.3		130.	58.3
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	146.	30.5	54.5	125.	54.1	161.	77.4	74.6
MIN	I	79.3	21.6	39.6	75.2	36.8	127.	52.3	36.8
MAX	I	230.	45.0	66.0	153.	70.0	195.	111.	[illegible]
N	I	3.00	3.00	3.00	3.00	3.00	2.00	[illegible]	[illegible]

```
SHERBORNE                                  CALCULATION DATE: 86/06/18
FFIDUR  Fluoride  ug/L

1983->84
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I                   52.0        49.5        47.7       50.6        51.7         50.8        50.6
MIN    I                   47.9        45.4        45.5       48.2        51.7         48.2        48.2
MAX    I                   56.8        51.9        48.9       53.8        51.7         53.8        53.8
N      I                   4.00        4.00        4.00       4.00        1.00         5.00        6.00

1984->85
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I       49.5        54.3        52.3        51.8       53.1        55.0         52.9        53.8
MIN    I       49.5        52.3        50.6        49.5       50.9        55.0         49.5        50.9
MAX    I       49.5        56.8        53.7        53.5       55.5        55.0         55.5        55.9
N      I       1.00        5.00        5.00        5.00       5.00        1.00         7.00        7.00

1985->86
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I       55.9        55.0        53.7        53.1       54.3                     54.5        54.3
MIN    I       55.9        52.3        51.0        50.2       51.5                     51.5        51.5
MAX    I       55.9        59.4        60.6        57.9       59.5                     59.5        59.5
N      I       1.00        5.00        5.00        5.00       5.00                     6.00        5.00

Overall summary of means
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I       52.7        53.8        51.8        50.8       52.6        53.4         52.7        52.9
MIN    I       49.5        52.0        49.5        47.7       50.6        51.7         50.8        50.6
MAX    I       55.9        55.0        53.7        53.1       54.3        55.0         54.5        54.3
N      I       2.00        3.00        3.00        3.00       3.00        2.00         3.00        3.00


KKUR    Potassium  mg/L

1983->84
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I       0.36       0.336       0.332        0.33      0.331       0.302        0.331       0.326
MIN    I       0.36        0.32        0.32        0.32      0.323       0.302        0.302       0.302
MAX    I       0.36        0.34        0.36        0.34       0.34       0.302         0.36        0.34
N      I       1.00        5.00        5.00        4.00       4.00        1.00         6.00        6.00

1984->85
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I       0.33       0.337       0.346       0.348      0.342                     0.34       0.342
MIN    I       0.33        0.32        0.33        0.33      0.326                    0.326       0.326
MAX    I       0.33        0.36        0.36        0.36      0.358                    0.358       0.358
N      I       1.00        5.00        5.00        5.00       5.00                     6.00        6.00

1985->86
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I       0.34       0.364       0.342       0.334      0.353                    0.351       0.353
MIN    I       0.34        0.35        0.32        0.29      0.333                    0.333       0.333
MAX    I       0.34        0.40        0.36        0.38      0.382                    0.382       0.382
N      I       1.00        5.00        5.00        5.00       5.00                     6.00        5.00

Overall summary of means
       I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
       I   OVERTURN         EPI        META        HYPO      STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN   I      0.343       0.346        0.34       0.337      0.342       0.302        0.341        0.34
MIN    I       0.33       0.336       0.332        0.33      0.331       0.302        0.331       0.326
MAX    I       0.36       0.364       0.346       0.348      0.353       0.302   [illegible]
N      I       3.00        3.00        3.00        3.00       3.00 [illegible]
```

```
SHERBORNE                                         CALCULATION DATE: 86/06/18
MGUR    Magnesium  mg/L

1983->84
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I       0.545      0.568        0.58       0.596      0.577       0.547       0.568       0.582
MIN   I       0.545       0.50        0.54        0.56      0.519       0.547       0.519       0.519
MAX   I       0.545       0.60        0.60        0.62      0.604       0.547       0.604        0.64
N     I        1.00       5.00        5.00        5.00       5.00        1.00        7.00        7.00

1984->85
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        0.64      0.618       0.632        0.64      0.627        0.62       0.628        0.62
MIN   I        0.64       0.61        0.62        0.61      0.614        0.62       0.614        0.59
MAX   I        0.64       0.63        0.65        0.66      0.638        0.62        0.64       0.638
N     I        1.00       5.00        5.00        5.00       5.00        1.00        7.00        7.00

1985->86
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        0.59      0.582       0.604       0.602      0.591                   0.591       0.591
MIN   I        0.59       0.53        0.58        0.57      0.558                   0.558       0.558
MAX   I        0.59       0.64        0.62        0.62       0.63                    0.63        0.63
N     I        1.00       5.00        5.00        5.00       5.00                    6.00        5.00

Overall summary of means
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I       0.592      0.589       0.605       0.613      0.598       0.583       0.595       0.598
MIN   I       0.545      0.568        0.58       0.596      0.577       0.547       0.568       0.582
MAX   I        0.64      0.618       0.632        0.64      0.627        0.62       0.628        0.62
N     I        3.00       3.00        3.00        3.00       3.00        2.00        3.00        3.00



MNUT    Manganese  ug/L

1983->84
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        33.9       24.2        77.0        83.6       50.7        70.3        51.1        55.4
MIN   I        33.9       9.00        28.0        40.0       31.2        70.3        31.2        31.2
MAX   I        33.9       42.0        138.        150.       74.8        70.3        74.8        74.8
N     I        1.00       5.00        5.00        5.00       5.00        1.00        7.00        7.00

1984->85
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        64.0       32.0        66.6        72.2       45.9        78.0        53.1        52.5
MIN   I        64.0       15.0        44.0        28.0       38.2        78.0        38.2        38.2
MAX   I        64.0       51.0        122.        156.       61.0        78.0        78.0        78.0
N     I        1.00       5.00        5.00        5.00       5.00        1.00        7.00        7.00

1985->86
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        60.0       25.8        50.8        40.6       35.2                    39.3        35.2
MIN   I        60.0       13.0        13.0        22.0       20.8                    20.8        20.8
MAX   I        60.0       42.0        100.        81.0       50.5                    60.0        50.5
N     I        1.00       5.00        5.00        5.00       5.00                    6.00        5.00

Overall summary of means
      I    SPRING                                          SUMMER        FALL         ICE     JUNE 1->
      I   OVERTURN         EPI        META        HYPO      STRAT     OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I        52.6       27.3        64.8        65.5       43.9        74.1        47.8        47.7
MIN   I        33.9       24.2        50.8        40.6       35.2        70.3        39.3        35.2
MAX   I        64.0       32.0        77.0        83.6       50.7        78.0        53.1        55.4
N     I        3.00       3.00        3.00        3.00       3.00        2.00        3.00        3.00
```

SHERBORNE CALCULATION DATE: 86/06/16

NAUF Sodium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.558	0.51	0.50	0.52	0.508	0.45	0.507	0.507
MIN	I	0.558	0.50	0.50	0.50	0.50	0.45	0.45	0.45
MAX	I	0.558	0.55	0.50	0.55	0.533	0.45	0.558	0.56
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.56	0.561	0.562	0.558	0.56	0.57	0.562	0.559
MIN	I	0.56	0.55	0.55	0.54	0.551	0.57	0.551	0.54
MAX	I	0.56	0.58	0.58	0.57	0.578	0.57	0.578	0.578
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.54	0.525	0.526	0.532	0.527		0.53	0.527
MIN	I	0.54	0.48	0.51	0.52	0.501		0.501	0.501
MAX	I	0.54	0.57	0.56	0.54	0.548		0.548	0.548
N	I	1.00	4.00	5.00	5.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.553	0.532	0.529	0.537	0.532	0.51	0.533	0.531
MIN	I	0.54	0.51	0.50	0.52	0.508	0.45	0.507	0.507
MAX	I	0.56	0.561	0.562	0.558	0.56	0.57	0.562	0.559
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

NNHTFR Ammonium as N ug/L DETECTION LIMIT USED:1

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	10.9	6.00L	10.0	16.2	9.09L	11.6	9.71L	8.58L
MIN	I	10.9	1.00	5.00	6.00	4.68	11.6	4.68	3.00
MAX	I	10.9	10.0	14.0	24.0	13.0	11.6	13.0	13.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.00	7.00	14.4	12.4	9.27	2.00	7.33	8.19
MIN	I	3.00	1.00	3.00	3.00	5.88	2.00	2.00	2.00
MAX	I	3.00	13.0	37.0	24.0	13.8	2.00	13.8	13.8
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	9.00	5.60	17.8	17.6	11.7		11.3	11.7
MIN	I	9.00	1.00	2.00	4.00	6.19		6.19	6.19
MAX	I	9.00	8.00	43.0	30.0	16.6		16.6	16.6
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.65	6.20	14.1	15.4	10.0	6.81	9.43	9.49
MIN	I	3.00	5.60	10.0	12.4	9.09	2.00	7.33	8.19
MAX	I	10.9	7.00	17.8	17.6	11.7	11.6	11.3	11.7
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

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SHERBORNE                                        CALCULATION DATE: 86/06/18
NNOTFR  Nitrate and Nitrite as N  ug/L           DETECTION LIMIT USED:2

1983->84
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      121.      30.2L       81.4        155.        68.2L        61.4         74.7L      72.5L
MIN  I      121.      2.00        48.0        127.        46.0         61.4         46.0       46.0
MAX  I      121.      95.0        108.        198.        108.         61.4         121.       108.
N    I      1.00      5.00        5.00        5.00        5.00         1.00         7.00       7.00

1984->85
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      105.      18.1L       74.0        160.        60.6L        65.0         67.6L      71.9L
MIN  I      105.      2.50        45.0        120.        46.5         65.0         46.5       46.5
MAX  I      105.      45.0        95.0        215.        75.5         65.0         105.       135.
N    I      1.00      5.00        5.00        5.00        5.00         1.00         7.00       7.00

1985->86
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      135.      41.0        91.6        158.        78.1                      87.6       78.1
MIN  I      135.      5.00        65.0        130.        54.2                      54.2       54.2
MAX  I      135.      95.0        115.        190.        110.                      135.       110.
N    I      1.00      5.00        5.00        5.00        5.00                      6.00       5.00

Overall summary of means
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      120.      29.8        82.3        158.        69.0         63.2         76.6       74.2
MIN  I      105.      18.1        74.0        155.        60.6         61.4         67.6       71.9
MAX  I      135.      41.0        91.6        160.        78.1         65.0         87.6       78.1
N    I      3.00      3.00        3.00        3.00        3.00         2.00         3.00       3.00




NNTKUR  Total Kjeldahl Nitrogen  ug/L

1983->84
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      156.      174.        182.        162.        175.         183.         173.       170.
MIN  I      156.      150.        145.        155.        153.         183.         153.       130.
MAX  I      156.      240.        285.        170.        244.         183.         244.       244.
N    I      1.00      5.00        5.00        5.00        5.00         1.00         7.00       7.00

1984->85
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      130.      182.        182.        162.        177.         160.         168.       174.
MIN  I      130.      170.        170.        150.        169.         160.         130.       160.
MAX  I      130.      190.        200.        190.        184.         160.         184.       184.
N    I      1.00      5.00        5.00        5.00        5.00         1.00         7.00       7.00

1985->86
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      170.      168.        188.        176.        176.                      175.       176.
MIN  I      170.      150.        150.        120.        154.                      154.       154.
MAX  I      170.      180.        220.        240.        206.                      206.       206.
N    I      1.00      5.00        5.00        5.00        5.00                      6.00       5.00

Overall summary of means
     I    SPRING                                          SUMMER        FALL          ICE    JUNE 1->
     I  OVERTURN       EPI        META        HYPO        STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------
MEAN I      152.      175.        184.        167.        176.         171.         172.       173.
MIN  I      130.      168.        182.        162.        175.         160.         168.       170.
MAX  I      170.      182.        188.        176.        177.         183.         175.       176.
N    I      3.00      3.00        3.00        3.00        3.00         2.00         3.00       3.00
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SHERBORNE                                    CALCULATION DATE: 86/06/18
PH       pH

1983->84
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.96        6.28         5.93         5.71      6.05        6.10          6.04        6.04
MIN   I       5.96        6.06         5.78         5.66      5.84        6.10          5.84        5.84
MAX   I       5.96        6.43         6.03         5.78      6.16        6.10          6.16        6.16
N     I       1.00        5.00         5.00         5.00      5.00        1.00          7.00        7.00

1984->85
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.91        6.29         5.97         5.68      6.08        5.94          6.03        6.01
MIN   I       5.91        6.10         5.80         5.61      5.98        5.94          5.91        5.75
MAX   I       5.91        6.53         6.10         5.76      6.18        5.94          6.18        6.18
N     I       1.00        5.00         5.00         5.00      5.00        1.00          7.00        7.00

1985->86
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.75        6.24         5.87         5.65      6.01                      5.97        6.01
MIN   I       5.75        6.08         5.82         5.55      5.92                      5.75        5.92
MAX   I       5.75        6.36         5.92         5.77      6.07                      6.07        6.07
N     I       1.00        5.00         5.00         5.00      5.00                      6.00        5.00

Overall summary of means
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.87        6.27         5.92         5.68      6.05        6.02          6.02        6.02
MIN   I       5.75        6.24         5.87         5.65      6.01        5.94          5.97        6.01
MAX   I       5.96        6.29         5.97         5.71      6.08        6.10          6.04        6.04
N     I       3.00        3.00         3.00         3.00      3.00        2.00          3.00        3.00



PFUT    Total Phosphorous  ug/L

1983->84
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.30        3.55         5.28         5.60      4.52        4.51          4.64        4.70
MIN   I       5.30        2.63         3.97         4.47      3.58        4.51          3.58        3.58
MAX   I       5.30        4.23         6.70         7.00      5.05        4.51          5.30        5.60
N     I       1.00        5.00         4.00         5.00      4.00        1.00          6.00        6.00

1984->85
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.60        3.65         4.81         5.13      4.31        3.37          4.36        4.21
MIN   I       5.60        2.70         4.05         4.63      3.48        3.37          3.37        3.37
MAX   I       5.60        4.50         5.67         5.90      5.20        3.37          5.60        5.20
N     I       1.00        5.00         5.00         5.00      5.00        1.00          7.00        7.00

1985->86
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       4.53        3.05         4.75         5.37      4.02                      4.10        4.02
MIN   I       4.53        2.73         3.73         4.27      3.43                      3.43        3.43
MAX   I       4.53        3.67         5.77         6.03      4.79                      4.79        4.79
N     I       1.00        5.00         5.00         5.00      5.00                      6.00        5.00

Overall summary of means
      I     SPRING                                         SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN         EPI         META         HYPO     STRAT    OVERTURN          FREE      MAY 31
--------------------------------------------------------------------------------------------------------
MEAN  I       5.14        3.42         4.95         5.36      4.28        3.94          4.37        4.31
MIN   I       4.53        3.05         4.75         5.13      4.02        3.37          4.10        4.02
MAX   I       5.60        3.65         5.28         5.60      4.52        4.51          4.64        4.70
N     I       3.00        3.00         3.00         3.00      3.00        2.00          3.00  [illegible]
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SHERBORNE CALCULATION DATE: 86/06/18

SIO3UR Silicates mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.33	0.958	1.12	1.48	1.10	0.941	1.11	1.10
MIN	I	1.33	0.65	0.99	1.35	0.908	0.941	0.908	0.908
MAX	I	1.33	1.22	1.27	1.58	1.28	0.941	1.33	1.28
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.28	0.74	1.07	1.38	0.946	0.75	0.966	0.947
MIN	I	1.28	0.45	0.95	1.26	0.709	0.75	0.709	0.709
MAX	I	1.28	1.07	1.15	1.49	1.14	0.75	1.28	1.15
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.15	0.782	0.986	1.25	0.93		0.966	0.93
MIN	I	1.15	0.57	0.90	1.17	0.805		0.805	0.805
MAX	I	1.15	1.02	1.06	1.36	1.08		1.15	1.08
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.25	0.827	1.06	1.37	0.991	0.845	1.01	0.992
MIN	I	1.15	0.74	0.986	1.25	0.93	0.75	0.966	0.93
MAX	I	1.33	0.958	1.12	1.48	1.10	0.941	1.11	1.10
N	I	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

SSO4UR Sulphate as SO4 mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.69	7.50	7.38	7.34	7.43	7.57	7.48	7.45
MIN	I	7.69	7.41	7.27	7.21	7.33	7.57	7.33	7.33
MAX	I	7.69	7.58	7.45	7.57	7.49	7.57	7.69	7.57
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		7.43	7.34	7.34	7.37	7.10	7.32	7.32
MIN	I		7.35	7.03	7.03	7.18	7.10	7.10	7.10
MAX	I		7.51	7.56	7.56	7.54	7.10	7.54	7.54
N	I		4.00	4.00	4.00	4.00	1.00	5.00	6.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.33	7.19	7.20	7.16	7.20		7.23	7.20
MIN	I	7.33	7.06	7.02	6.88	7.14		7.14	7.14
MAX	I	7.33	7.32	7.38	7.37	7.31		7.33	7.31
N	I	1.00	4.00	4.00	4.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.51	7.38	7.31	7.28	7.33	7.33	7.34	7.32
MIN	I	7.33	7.19	7.20	7.16	7.20	7.10	7.23	7.20
MAX	I	7.69	7.50	7.38	7.34	7.43	7.57	7.48	7.45
N	I	2.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00

SMOKE

Calculation date: 86/06/18

1983->84

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	830521	830521	830521	831101	830425	830601
END	830520	831031	831031	831031	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	840521	840521	840521	841106	840425	840601
END	840520	841105	841105	841105	841105	841214	841214	850531

1985->86

	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	850513	850513	850513	851120	850425	850601
END	850512	851119	851119	851119	851119	851204	851204	860531

ALKTI Alkalinity, TIA as CaCO3 mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.34	2.62	2.53	2.41	2.52		2.49	2.51
MIN	I	2.34	2.20	2.34	2.20	2.27		2.27	2.27
MAX	I	2.34	2.82	2.63	2.52	2.64		2.64	2.64
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.46	2.67	2.61	2.54	2.60	2.73	2.60	2.59
MIN	I	2.46	2.41	2.42	2.27	2.35	2.73	2.35	2.35
MAX	I	2.46	2.82	2.79	2.67	2.75	2.73	2.75	2.75
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.38	2.74	2.52	2.45	2.58		2.54	2.58
MIN	I	2.38	2.38	2.36	2.34	2.39		2.38	2.39
MAX	I	2.38	2.91	2.60	2.55	2.76		2.76	2.76
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.39	2.68	2.55	2.47	2.57	2.73	2.54	2.56
MIN	I	2.34	2.62	2.52	2.41	2.52	2.73	2.49	2.51
MAX	I	2.46	2.74	2.61	2.54	2.60	2.73	2.60	2.59
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

SMOKE CALCULATION DATE: 86/06/16

ALUT Aluminum ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.0	12.8	15.4	34.8	21.2		22.0	21.2
MIN	I	26.0	4.00	10.0	8.00	9.94		9.94	9.94
MAX	I	26.0	24.0	26.0	96.0	50.4		50.4	50.4
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	21.0	8.80	14.6	19.2	13.9	13.0	14.8	14.7
MIN	I	21.0	5.00	11.0	15.0	10.4	13.0	10.4	10.4
MAX	I	21.0	14.0	17.0	22.0	17.3	13.0	21.0	20.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	20.0	11.0	20.3	22.3	17.1		17.7	17.1
MIN	I	20.0	7.00	13.0	19.0	13.8		13.8	13.8
MAX	I	20.0	14.0	31.0	26.0	18.6		20.0	18.6
N	I	1.00	4.00	4.00	4.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	22.3	10.9	16.8	25.4	17.4	13.0	18.2	17.7
MIN	I	20.0	8.80	14.6	19.2	13.9	13.0	14.8	14.7
MAX	I	26.0	12.8	20.3	34.8	21.2	13.0	22.0	21.2
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

CAUR Calcium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.90	2.70	2.72	2.76	2.73		2.76	2.74
MIN	I	2.90	2.50	2.60	2.70	2.61		2.61	2.61
MAX	I	2.90	3.00	3.00	3.00	3.00		3.00	3.00
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.78	2.66	2.71	2.71	2.69	2.68	2.70	2.69
MIN	I	2.78	2.54	2.59	2.57	2.57	2.68	2.57	2.57
MAX	I	2.78	2.78	2.78	2.76	2.75	2.68	2.78	2.75
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.70	2.75	2.71	2.74	2.73		2.72	2.73
MIN	I	2.70	2.53	2.68	2.62	2.62		2.62	2.62
MAX	I	2.70	3.16	2.77	2.81	2.81		2.81	2.81
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.79	2.70	2.71	2.74	2.71	2.68	2.73	2.72
MIN	I	2.70	2.66	2.71	2.71	2.69	2.68	2.70	2.69
MAX	I	2.90	2.75	2.72	2.76	2.73	2.68	2.76	2.74
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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SMOKE                                         CALCULATION DATE: 86/06/18
CLIDUR  Chloride  mg/L

1983->84
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      1.18        1.10         1.14         1.17        1.14                   1.15       1.14
MIN   I      1.18        1.05         1.10         1.12        1.10                   1.10       1.10
MAX   I      1.18        1.15         1.17         1.25        1.19                   1.19       1.19
N     I      1.00        5.00         5.00         5.00        5.00                   6.00       6.00

1984->85
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      1.14        1.21         1.25         1.27        1.24        1.18       1.22       1.24
MIN   I      1.14        1.10         1.22         1.19        1.15        1.18       1.14       1.15
MAX   I      1.14        1.29         1.29         1.32        1.29        1.18       1.29       1.31
N     I      1.00        5.00         5.00         5.00        5.00        1.00       7.00       7.00

1985->86
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      1.31        1.24         1.29         1.37        1.30                   1.31       1.30
MIN   I      1.31        1.17         1.22         1.32        1.26                   1.26       1.26
MAX   I      1.31        1.30         1.34         1.43        1.36                   1.36       1.36
N     I      1.00        5.00         5.00         5.00        5.00                   6.00       5.00

Overall summary of means
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      1.21        1.19         1.23         1.27        1.23        1.18       1.22       1.23
MIN   I      1.14        1.10         1.14         1.17        1.14        1.18       1.15       1.14
MAX   I      1.31        1.24         1.29         1.37        1.30        1.18       1.31       1.30
N     I      3.00        3.00         3.00         3.00        3.00        1.00       3.00       3.00



COLTR   Colour (true)

1983->84
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      16.0        10.2         12.4         13.0        11.9                   12.6       11.6
MIN   I      16.0        7.00         10.0         10.0        9.36                   9.36       9.36
MAX   I      16.0        15.0         15.0         15.0        15.0                   16.0       15.0
N     I      1.00        5.00         5.00         5.00        5.00                   6.00       6.00

1984->85
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      10.0        11.4         15.6         12.0        13.2        8.00       12.0       12.0
MIN   I      10.0        6.00         7.00         8.00        8.81        8.00       8.00       8.00
MAX   I      10.0        15.0         34.0         14.0        20.3        8.00       20.3       20.3
N     I      1.00        5.00         5.00         5.00        5.00        1.00       7.00       7.00

1985->86
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      10.0        10.0         11.2         12.0        11.1                   10.9       11.1
MIN   I      10.0        7.00         9.00         11.0        9.57                   9.57       9.57
MAX   I      10.0        13.0         13.0         13.0        12.8                   12.8       12.8
N     I      1.00        5.00         5.00         5.00        5.00                   6.00       5.00

Overall summary of means
      I    SPRING                                            SUMMER       FALL        ICE    JUNE 1->
      I   OVERTURN       EPI          META         HYPO       STRAT     OVERTURN      FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      12.0        10.5         13.1         12.3        12.1        8.00       11.8       11.6
MIN   I      10.0        10.0         11.2         12.0        11.1        8.00       10.9       11.1
MAX   I      16.0        11.4         15.6         13.0        13.2        8.00       12.6       12.0
N     I      3.00        3.00         3.00         3.00        3.00        1.00       3.00       3.00
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SMOKE                                          CALCULATION DATE: 86/06/18
COND25  Conductivity (25 C)

1983->84
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        33.0        33.0        31.6        34.3        33.2                    33.2        33.3
MIN   I        33.0        32.9        24.0        34.0        31.5                    31.5        31.5
MAX   I        33.0        33.0        34.0        35.0        34.1                    34.1        34.1
N     I        1.00        5.00        5.00        5.00        5.00                    6.00        6.00

1984->85
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        33.6        32.6        34.0        34.3        33.6        32.8        33.5        33.4
MIN   I        33.6        32.1        33.7        33.7        33.4        32.8        32.8        32.8
MAX   I        33.6        32.9        34.6        35.2        33.8        32.8        33.8        33.8
N     I        1.00        5.00        5.00        5.00        5.00        1.00        7.00        7.00

1985->86
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        33.2        32.3        33.1        33.9        33.1                    33.1        33.1
MIN   I        33.2        31.9        32.8        33.6        33.0                    33.0        33.0
MAX   I        33.2        32.5        34.0        34.2        33.2                    33.2        33.2
N     I        1.00        5.00        5.00        5.00        5.00                    6.00        5.00

Overall summary of means
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        33.3        32.6        32.9        34.1        33.3        32.8        33.3        33.3
MIN   I        33.0        32.3        31.6        33.9        33.1        32.8        33.1        33.1
MAX   I        33.6        33.0        34.0        34.3        33.6        32.8        33.5        33.4
N     I        3.00        3.00        3.00        3.00        3.00        1.00        3.00        3.00



DIC     Dissolved Inorganic Carbon  mg/L

1983->84
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        0.96       0.652        1.01        1.36        1.03                    1.02        1.01
MIN   I        0.96        0.58        0.80        1.00       0.849                   0.849       0.849
MAX   I        0.96        0.71        1.26        1.66        1.18                    1.18        1.18
N     I        1.00        5.00        5.00        5.00        5.00                    6.00        6.00

1984->85
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        0.91        0.66        1.25        1.49        1.09        1.08        1.06        1.08
MIN   I        0.91        0.56        0.88        1.15       0.935        1.08        0.91       0.935
MAX   I        0.91        0.81        1.87        1.98        1.31        1.08        1.31        1.31
N     I        1.00        5.00        5.00        5.00        5.00        1.00        7.00        7.00

1985->86
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        1.04       0.686        1.18        1.49        1.11                    1.10        1.11
MIN   I        1.04        0.60        0.83        1.11       0.907                   0.907       0.907
MAX   I        1.04        0.84        1.98        1.93        1.32                    1.32        1.32
N     I        1.00        5.00        5.00        5.00        5.00                    6.00        5.00

Overall summary of means
      I      SPRING                                          SUMMER        FALL         ICE    JUNE 1->
      I    OVERTURN         EPI        META        HYPO       STRAT    OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I        0.97       0.666        1.15        1.45        1.08        1.08        1.06        1.07
MIN   I        0.91       0.652        1.01        1.36        1.03        1.08        1.02        1.01
MAX   I        1.04       0.686        1.25        1.49        1.11        1.08        1.10        1.11
N     I        3.00        3.00        3.00        3.00        3.00        1.00        3.00        3.00
```

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SMOKE                                        CALCULATION DATE: 86/06/18
DOC     Dissolved Organic Carbon  mg/L

1983->84
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      2.80         3.24        2.94        2.84        2.99                     2.96        3.05
MIN   I      2.80         3.00        2.90        2.80        2.89                     2.80        2.80
MAX   I      2.80         3.60        3.00        2.90        3.15                     3.15        3.30
N     I      1.00         5.00        5.00        5.00        5.00                     6.00        6.00

1984->85
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      3.30         3.28        2.94        2.84        3.03        2.80         3.04        3.01
MIN   I      3.30         3.10        2.90        2.70        2.93        2.80         2.80        2.80
MAX   I      3.30         3.40        3.00        3.00        3.18        2.80         3.30        3.18
N     I      1.00         5.00        5.00        5.00        5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      3.10         3.20        2.98        2.90        3.03                     3.04        3.03
MIN   I      3.10         2.90        2.50        2.60        2.76                     2.76        2.76
MAX   I      3.10         3.50        3.40        3.20        3.34                     3.34        3.34
N     I      1.00         5.00        5.00        5.00        5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      3.07         3.24        2.95        2.86        3.02        2.80         3.01        3.03
MIN   I      2.80         3.20        2.94        2.84        2.99        2.80         2.96        3.01
MAX   I      3.30         3.28        2.98        2.90        3.03        2.80         3.04        3.05
N     I      3.00         3.00        3.00        3.00        3.00        1.00         3.00        3.00



FEUT    Iron  ug/L                           DETECTION LIMIT USED:5

1983->84
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      60.0         22.0        20.0        38.0        26.8                     32.3        45.6
MIN   I      60.0         15.0        10.0        25.0        18.7                     18.7        18.7
MAX   I      60.0         30.0        30.0        55.0        35.1                     60.0        140.
N     I      1.00         5.00        5.00        5.00        5.00                     6.00        6.00

1984->85
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      140.         33.4        40.6        53.6        42.2        70.0         60.1        50.1
MIN   I      140.         25.0        30.0        38.0        36.1        70.0         36.1        36.1
MAX   I      140.         45.0        55.0        75.0        55.8        70.0         140.        70.0
N     I      1.00         5.00        5.00        5.00        5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1-
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      70.0         55.4L       21.6L       155.        105.L                    98.9L       105.L
MIN   I      70.0         5.00        5.00        22.0        18.5                     18.5        18.5
MAX   I      70.0         190.        46.0        571.        307.                     307.        307.
N     I      1.00         5.00        5.00        5.00        5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                           SUMMER        FALL          ICE    JUNE 1-
      I  OVERTURN          EPI        META        HYPO       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------------------------------------------
MEAN  I      90.0         36.9        27.4        82.3        57.9        70.0         63.8        66.8
MIN   I      60.0         22.0        20.0        38.0        26.8        70.0         32.3        45.6
MAX   I      140.         55.4        40.6        155.        105.        70.0         98.9        105.
N     I      3.00         3.00        3.00        3.00        3.00        1.00         3.00        3.00
```

```
SMOKE                                                 CALCULATION DATE: 86/06/16
FFIDUR  Fluoride  ug/L

1983->84
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I                   38.0        36.3        36.1        36.8                        36.8        36.9
MIN    I                   37.0        36.0        35.2        36.1                        36.1        36.1
MAX    I                   39.6        36.6        36.7        37.2                        37.2        37.5
N      I                   4.00        4.00        4.00        4.00                        4.00        5.00

1984->85
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I      37.5         38.7        37.6        38.1        38.2        39.4            38.3        38.0
MIN    I      37.5         36.1        35.8        37.0        36.4        39.4            36.4        35.4
MAX    I      37.5         42.1        40.3        41.0        41.3        39.4            41.3        41.3
N      I      1.00         5.00        5.00        5.00        5.00        1.00            7.00        7.00

1985->86
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I      35.4         39.1        38.0        38.1        38.4                        37.9        38.4
MIN    I      35.4         36.3        36.1        36.2        36.2                        35.4        36.2
MAX    I      35.4         40.5        39.3        39.7        39.9                        39.9        39.9
N      I      1.00         5.00        5.00        5.00        5.00                        6.00        5.00

Overall summary of means
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I      36.5         38.6        37.3        37.4        37.8        39.4            37.7        37.8
MIN    I      35.4         38.0        36.3        36.1        36.8        39.4            36.8        36.9
MAX    I      37.5         39.1        38.0        38.1        38.4        39.4            38.3        38.4
N      I      2.00         3.00        3.00        3.00        3.00        1.00            3.00        3.00



KKUR    Potassium  mg/L

1983->84
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I      0.44        0.416       0.416       0.412       0.415                       0.419       0.413
MIN    I      0.44         0.38        0.40        0.38       0.394                       0.394       0.394
MAX    I      0.44         0.44        0.44        0.44       0.432                        0.44       0.432
N      I      1.00         5.00        5.00        5.00        5.00                        6.00        6.00

1984->85
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I      0.40        0.409       0.414       0.412       0.411        0.41           0.409       0.411
MIN    I      0.40        0.405        0.41        0.41       0.409        0.41            0.40       0.409
MAX    I      0.40         0.41        0.42        0.42       0.416        0.41           0.416       0.416
N      I      1.00         5.00        5.00        5.00        5.00        1.00            7.00        7.00

1985->86
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I      0.41        0.444       0.456       0.444       0.444                       0.439       0.444
MIN    I      0.41         0.41        0.41        0.40       0.409                       0.409       0.409
MAX    I      0.41         0.49        0.49        0.47       0.474                       0.474       0.474
N      I      1.00         5.00        5.00        5.00        5.00                        6.00        5.00

Overall summary of means
       I     SPRING                                                  SUMMER        FALL            ICE    JUNE 1->
       I   OVERTURN        EPI         META        HYPO        STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN   I     0.417        0.423       0.429       0.423       0.424        0.41           0.423       0.423
MIN    I      0.40        0.409       0.414       0.412       0.411        0.41           0.409       0.411
MAX    I      0.44        0.444       0.456       0.444       0.444        0.41           0.439       0.444
N      I      3.00         3.00        3.00        3.00        3.00        1.00            3.00        3.00
```

SMOKE CALCULATION DATE: 86/06/18

MGUR Magnesium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.78	0.792	0.804	0.812	0.804		0.80	0.818
MIN	I	0.78	0.74	0.78	0.78	0.784		0.78	0.784
MAX	I	0.78	0.84	0.82	0.82	0.825		0.825	0.89
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.89	0.801	0.816	0.828	0.815	0.85	0.831	0.814
MIN	I	0.89	0.76	0.77	0.78	0.772	0.85	0.772	0.77
MAX	I	0.89	0.82	0.83	0.85	0.831	0.85	0.89	0.85
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.77	0.778	0.794	0.806	0.793		0.789	0.793
MIN	I	0.77	0.77	0.77	0.79	0.779		0.77	0.779
MAX	I	0.77	0.78	0.81	0.83	0.805		0.805	0.805
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.813	0.79	0.805	0.815	0.804	0.85	0.807	0.808
MIN	I	0.77	0.778	0.794	0.806	0.793	0.85	0.789	0.793
MAX	I	0.89	0.801	0.816	0.828	0.815	0.85	0.831	0.818
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

MNUT Manganese ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	59.0	10.0	17.6	31.0	19.7		26.3	22.4
MIN	I	59.0	7.00	4.00	13.0	9.12		9.12	9.12
MAX	I	59.0	20.0	37.0	64.0	35.1		59.0	36.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	36.0	9.00	19.6	30.6	18.5	26.0	22.1	24.2
MIN	I	36.0	7.00	8.00	16.0	11.8	26.0	11.8	11.8
MAX	I	36.0	13.0	40.0	48.0	27.2	26.0	36.0	51.0
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	51.0	9.60	24.4	36.0	21.9		26.7	21.9
MIN	I	51.0	5.00	8.00	10.0	8.25		8.25	8.25
MAX	I	51.0	15.0	66.0	83.0	42.2		51.0	42.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	48.7	9.53	20.5	32.5	20.0	26.0	25.0	22.8
MIN	I	36.0	9.00	17.6	30.6	18.5	26.0	22.1	21.9
MAX	I	59.0	10.0	24.4	36.0	21.9	26.0	26.7	24.2
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
SMOKE                                         CALCULATION DATE: 86/06/18
NAUR    Sodium  mg/L

1983->84
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      1.30        1.10       1.15       1.15          1.13                     1.16       1.16
MIN     I      1.30        0.95       1.05       1.10          1.04                     1.04       1.04
MAX     I      1.30        1.20       1.20       1.20          1.18                     1.30       1.27
N       I      1.00        5.00       5.00       5.00          5.00                     6.00       6.00

1984->85
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      1.27        1.27       1.29       1.30          1.28        1.26         1.28       1.27
MIN     I      1.27        1.22       1.28       1.28          1.25        1.26         1.25       1.22
MAX     I      1.27        1.30       1.29       1.32          1.30        1.26         1.30       1.30
N       I      1.00        5.00       5.00       5.00          5.00        1.00         7.00       7.00

1985->86
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      1.22        1.21       1.26       1.28          1.25                     1.24       1.25
MIN     I      1.22        1.16       1.22       1.22          1.20                     1.20       1.20
MAX     I      1.22        1.24       1.36       1.34          1.28                     1.28       1.28
N       I      1.00        5.00       5.00       5.00          5.00                     6.00       5.00

Overall summary of means
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1-
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      1.26        1.19       1.23       1.24          1.22        1.26         1.23       1.22
MIN     I      1.22        1.10       1.15       1.15          1.13        1.26         1.16       1.15
MAX     I      1.30        1.27       1.29       1.30          1.28        1.26         1.28       1.27
N       I      3.00        3.00       3.00       3.00          3.00        1.00         3.00       3.00




NNHTFR  Ammonium as N  ug/L                   DETECTION LIMIT USED:1

1983->84
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      10.0        9.20       9.80       11.2L         10.8L                    10.7L      9.50L
MIN     I      10.0        1.00       2.00       1.00          5.33                     5.33       3.00
MAX     I      10.0        23.0       19.0       27.0          19.1                     19.1       19.1
N       I      1.00        5.00       5.00       5.00          5.00                     6.00       6.00

1984->85
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      3.00        3.40L      9.80       12.6L         8.89L       4.00         7.35L      7.06L
MIN     I      3.00        1.00       2.00       1.00          1.68        4.00         1.68       1.00
MAX     I      3.00        8.00       25.0       27.0          20.4        4.00         20.4       20.4
N       I      1.00        5.00       5.00       5.00          5.00        1.00         7.00       7.00

1985->86
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      1.00        3.20L      7.00       10.2L         7.23L                    6.20L      7.23L
MIN     I      1.00        1.00       2.00       1.00          1.96                     1.00       1.96
MAX     I      1.00        5.00       14.0       25.0          15.4                     15.4       15.4
N       I      1.00        5.00       5.00       5.00          5.00                     6.00       5.00

Overall summary of means
        I    SPRING                                           SUMMER      FALL          ICE    JUNE 1->
        I   OVERTURN        EPI       META       HYPO         STRAT    OVERTURN         FREE     MAY 31
-------------------------------------------------------------------------------------------------------
MEAN    I      4.67        5.27       8.87       11.3          8.97        4.00         8.07       7.93
MIN     I      1.00        3.20       7.00       10.2          7.23        4.00         6.20       7.06
MAX     I      10.0        9.20       9.80       12.6          10.8        4.00         10.7       9.50
N       I      3.00        3.00       3.00       3.00          3.00        1.00         3.00       3.00
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SMOKE                                              CALCULATION DATE: 86/06/18
NNOTFR  Nitrate and Nitrite as N  ug/L             DETECTION LIMIT USED:2

1983->84
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       154.        73.4L        101.         166.        120.L                      126.L       121.L
MIN   I       154.        2.00         70.0         148.        86.4                       86.4        86.4
MAX   I       154.        198.         120.         198.        180.                       180.        180.
N     I       1.00        5.00         5.00         5.00        5.00                       6.00        6.00

1984->85
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       125.        11.8         107.         149.        83.2         85.0          89.5        95.9
MIN   I       125.        3.00         60.0         115.        71.0         85.0          71.0        71.0
MAX   I       125.        40.0         180.         185.        91.3         85.0          125.        170.
N     I       1.00        5.00         5.00         5.00        5.00         1.00          7.00        7.00

1985->86
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       170.        35.6         125.         189.        116.                       125.        116.
MIN   I       170.        3.00         70.0         165.        94.9                       94.9        94.9
MAX   I       170.        115.         200.         210.        147.                       170.        147.
N     I       1.00        5.00         5.00         5.00        5.00                       6.00        5.00

Overall summary of means
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       150.        40.3         111.         168.        106.         85.0          113.        111.
MIN   I       125.        11.8         101.         149.        83.2         85.0          89.5        95.9
MAX   I       170.        73.4         125.         189.        120.         85.0          126.        121.
N     I       3.00        3.00         3.00         3.00        3.00         1.00          3.00        3.00



NNTKUR  Total Kjeldahl Nitrogen  ug/L

1983->84
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       195.        173.         180.         176.        177.                       180.        175.
MIN   I       195.        160.         155.         150.        155.                       155.        155.
MAX   I       195.        180.         190.         190.        187.                       190.        190.
N     I       1.00        5.00         5.00         5.00        5.00                       6.00        6.00

1984->85
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       165.        210.         196.         180.        197.         190.          190.        194.
MIN   I       165.        200.         160.         160.        182.         190.          165.        165.
MAX   I       165.        240.         220.         200.        213.         190.          213.        213.
N     I       1.00        5.00         5.00         5.00        5.00         1.00          7.00        7.00

1985->86
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       190.        204.         202.         190.        198.                       197.        198.
MIN   I       190.        190.         160.         170.        180.                       180.        180.
MAX   I       190.        210.         220.         230.        221.                       221.        221.
N     I       1.00        5.00         5.00         5.00        5.00                       6.00        5.00

Overall summary of means
      I    SPRING                                              SUMMER         FALL          ICE     JUNE 1->
      I  OVERTURN          EPI        META         HYPO         STRAT     OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN  I       183.        196.         193.         182.        191.         190.          189.        189.
MIN   I       165.        173.         180.         176.        177.         190.          180.        175.
MAX   I       195.        210.         202.         190.        198.         190.          197.        198.
N     I       3.00        3.00         3.00         3.00        3.00         1.00          3.00        3.00
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SMOKE                                              CALCULATION DATE: 86/06/18
PH        pH

1983->84
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       6.26        6.70        6.33        6.10        6.36                        6.34        6.35
MIN    I       6.26        6.59        6.19        5.97        6.33                        6.20        6.32
MAX    I       6.26        6.81        6.44        6.20        6.40                        6.40        6.40
N      I       1.00        5.00        5.00        5.00        5.00                        6.00        6.00

1984->85
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       6.32        6.74        6.28        6.25        6.45        6.40            6.43        6.41
MIN    I       6.32        6.64        6.01        5.96        6.35        6.40            6.32        6.23
MAX    I       6.32        6.82        6.46        6.81        6.67        6.40            6.67        6.67
N      I       1.00        5.00        5.00        5.00        5.00        1.00            7.00        7.00

1985->86
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       6.23        6.69        6.22        6.03        6.32                        6.30        6.22
MIN    I       6.23        6.57        5.88        5.88        6.26                        6.23        6.26
MAX    I       6.23        6.82        6.36        6.20        6.41                        6.41        6.41
N      I       1.00        5.00        5.00        5.00        5.00                        6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       6.27        6.71        6.28        6.12        6.38        6.40            6.36        6.36
MIN    I       6.23        6.69        6.22        6.03        6.32        6.40            6.30        6.32
MAX    I       6.32        6.74        6.33        6.25        6.45        6.40            6.43        6.41
N      I       3.00        3.00        3.00        3.00        3.00        1.00            3.00        3.00




PTOT    Total Phosphorous  ug/L

1983->84
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       6.47        4.50        5.81        5.45        5.39                        5.61        5.45
MIN    I       6.47        4.00        5.53        5.00        5.07                        5.07        5.07
MAX    I       6.47        5.10        6.13        6.20        5.60                        6.47        5.70
N      I       1.00        4.00        5.00        5.00        4.00                        5.00        5.00

1984->85
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       5.70        5.33        5.88        4.58        5.19        3.20            4.98        5.00
MIN    I       5.70        3.70        4.50        3.77        4.07        3.20            3.20        3.20
MAX    I       5.70        6.93        7.07        5.10        5.92        3.20            5.92        5.92
N      I       1.00        5.00        5.00        5.00        5.00        1.00            7.00        7.00

1985->86
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       5.83        5.03        6.23        5.53        5.46                        5.52        5.46
MIN    I       5.83        4.53        5.53        4.83        5.02                        5.02        5.02
MAX    I       5.83        5.60        7.43        6.30        5.96                        5.96        5.96
N      I       1.00        5.00        5.00        5.00        5.00                        6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER       FALL           ICE     JUNE 1->
       I   OVERTURN         EPI         META        HYPO        STRAT      OVERTURN        FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN   I       6.00        4.95        5.97        5.19        5.35        3.20            5.37        5.30
MIN    I       5.70        4.50        5.81        4.58        5.19        3.20            4.98        5.00
MAX    I       6.47        5.33        6.23        5.53        5.46        3.20            5.61        5.46
N      I       3.00        3.00        3.00        3.00        3.00        1.00            3.00        3.00
```

SMOKE CALCULATION DATE: 86/06/18

SIO3UR Silicates mg/L

1983->84

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	1.25	0.838	0.998	1.38	1.08		1.11	1.10
MIN I	1.25	0.47	0.88	1.19	0.908		0.908	0.908
MAX I	1.25	1.13	1.13	1.47	1.19		1.25	1.20
N I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	1.20	0.46	1.00	1.30	0.883	0.68	0.899	0.892
MIN I	1.20	0.29	0.77	1.17	0.785	0.68	0.68	0.68
MAX I	1.20	0.91	1.23	1.41	1.06	0.68	1.20	1.19
N I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	1.15	0.418	0.824	1.24	0.829		0.883	0.829
MIN I	1.15	0.02	0.44	1.18	0.642		0.642	0.642
MAX I	1.15	1.01	1.27	1.36	1.11		1.15	1.11
N I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	1.20	0.572	0.941	1.31	0.931	0.68	0.964	0.941
MIN I	1.15	0.418	0.824	1.24	0.829	0.68	0.883	0.829
MAX I	1.25	0.838	1.00	1.38	1.08	0.68	1.11	1.10
N I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

SSO4UR Sulphate as SO4 mg/L

1983->84

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	7.56	7.85	7.71	7.69	7.74		7.71	7.74
MIN I	7.56	7.65	7.58	7.59	7.62		7.56	7.62
MAX I	7.56	8.01	7.83	7.80	7.85		7.85	7.85
N I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

1984->85

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I		7.76	7.73	7.65	7.70	7.48	7.66	7.65
MIN I		7.61	7.58	7.42	7.53	7.48	7.48	7.48
MAX I		8.07	7.94	7.94	7.98	7.48	7.98	7.98
N I		4.00	4.00	4.00	4.00	1.00	5.00	6.00

1985->86

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	7.59	7.52	7.51	7.55	7.52		7.54	7.52
MIN I	7.59	7.21	7.15	7.19	7.19		7.19	7.19
MAX I	7.59	7.95	8.02	8.10	8.01		8.01	8.01
N I	1.00	4.00	4.00	4.00	4.00		5.00	4.00

Overall summary of means

I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN I	7.58	7.71	7.65	7.63	7.66	7.48	7.64	7.64
MIN I	7.56	7.52	7.51	7.55	7.52	7.48	7.54	7.52
MAX I	7.59	7.85	7.73	7.69	7.74	7.48	7.71	7.74
N I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

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TIMBERWOLF
                                                       Calculation date: 86/06/18

1983->84
          SPRING                                       SUMMER      FALL         ICE  JUNE 1->
        OVERTURN        EPI       META       HYPO       STRAT  OVERTURN        FREE    MAY 31
---------------------------------------------------------------------------------------------
 START    830425     830521     830521     830521      830521    831101      830425    830601
   END    830520     831031     831031     831031      831031    831118      831118    840531

1984->85
          SPRING                                       SUMMER      FALL         ICE  JUNE 1->
        OVERTURN        EPI       META       HYPO       STRAT  OVERTURN        FREE    MAY 31
---------------------------------------------------------------------------------------------
 START    840425     840521     840521     840521      840521    841106      840425    840601
   END    840520     841105     841105     841105      841105    841214      841214    850531

1985->86
          SPRING                                       SUMMER      FALL         ICE  JUNE 1->
        OVERTURN        EPI       META       HYPO       STRAT  OVERTURN        FREE    MAY 31
---------------------------------------------------------------------------------------------
 START    850425     850513     850513     850513      850513    851120      850425    850601
   END    850512     851119     851119     851119      851119    851204      851204    860531



ALKTI   Alkalinity, TIA as CaCO3  mg/L

1983->84
     I    SPRING                                             SUMMER         FALL            ICE    JUNE 1->
     I  OVERTURN          EPI          META          HYPO     STRAT     OVERTURN           FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN I      1.21         1.47          1.52          1.95      1.51                        1.46        1.37
MIN  I      1.21         1.27          1.01          1.15      1.09                        1.09        0.69
MAX  I      1.21         1.58          2.01          3.01      1.83                        1.83        1.83
N    I      1.00         5.00          5.00          5.00      5.00                        6.00        6.00

1984->85
     I    SPRING                                             SUMMER         FALL            ICE    JUNE 1->
     I  OVERTURN          EPI          META          HYPO     STRAT     OVERTURN           FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN I      0.69         1.35          1.62          2.12      1.47         1.76           1.40        1.46
MIN  I      0.69         1.15          1.01          1.05      1.08         1.76           0.69        1.08
MAX  I      0.69         1.73          2.63          3.63      1.91         1.76           1.91        1.91
N    I      1.00         5.00          5.00          5.00      5.00         1.00           7.00        7.00

1985->86
     I    SPRING                                             SUMMER         FALL            ICE    JUNF 1->
     I  OVERTURN          EPI          META          HYPO     STRAT     OVERTURN           FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN I      1.13         1.51          1.73          2.01      1.61                        1.53        1.61
MIN  I      1.13         1.18          1.37          1.25      1.27                        1.13        1.27
MAX  I      1.13         1.78          2.33          3.20      1.94                        1.94        1.94
N    I      1.00         5.00          5.00          5.00      5.00                        6.00        5.00

Overall summary of means
     I    SPRING                                             SUMMER         FALL            ICE    JUNE 1->
     I  OVERTURN          EPI          META          HYPO     STRAT     OVERTURN           FREE      MAY 31
-------------------------------------------------------------------------------------------------------------
MEAN I      1.01         1.44          1.63          2.03      1.53         1.76           1.46        1.48
MIN  I      0.69         1.35          1.52          1.95      1.47         1.76           1.40        1.37
MAX  I      1.21         1.51          1.73          2.12      1.61         1.76           1.53        1.61
N    I      3.00         3.00          3.00          3.00      3.00         1.00           3.00        3.00
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TIMBERWOLF                                       CALCULATION DATE: 86/06/18
ALUT    Aluminum  ug/L

1983->84
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      65.8        21.4       43.6        83.8        35.4                     40.5        39.3
MIN   I      65.8        8.00       33.0        47.0        20.2                     20.2        20.2
MAX   I      65.8        44.0       58.0        110.        51.0                     65.8        59.0
N     I      1.00        5.00       5.00        5.00        5.00                     6.00        6.00

1984->85
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      59.0        31.4       53.6        67.6        41.8        42.0         44.3        44.3
MIN   I      59.0        19.0       44.0        59.0        32.8        42.0         32.8        32.8
MAX   I      59.0        50.0       66.0        77.0        54.7        42.0         59.0        59.0
N     I      1.00        5.00       5.00        5.00        5.00        1.00         7.00        7.00

1985->86
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      59.0        36.6       53.6        73.0        44.0                     46.5        44.0
MIN   I      59.0        18.0       48.0        56.0        27.9                     27.9        27.9
MAX   I      59.0        64.0       61.0        94.0        65.7                     65.7        65.7
N     I      1.00        5.00       5.00        5.00        5.00                     6.00        5.00

Overall summary of means
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      61.3        29.8       50.3        74.8        40.4        42.0         43.7   42.[illegible]
MIN   I      59.0        21.4       43.6        67.6        35.4        42.0         40.5        39.3
MAX   I      65.8        36.6       53.6        83.8        44.0        42.0         46.5        44.3
N     I      3.00        3.00       3.00        3.00        3.00        1.00         3.00        3.00



CAUR    Calcium  mg/L

1983->84
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      2.66        2.38       2.40        2.40        2.39                     2.44        2.42
MIN   I      2.66        2.20       2.30        2.30        2.25                     2.25        2.25
MAX   I      2.66        2.70       2.50        2.50        2.62                     2.66        2.61
N     I      1.00        5.00       5.00        5.00        5.00                     6.00        6.00

1984->85
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      2.55        2.48       2.55        2.58        2.51        2.64         2.53   2.5[illegible]
MIN   I      2.55        2.42       2.43        2.36        2.42        2.64         2.42        2.31
MAX   I      2.55        2.53       2.66        2.74        2.56        2.64         2.64        2.64
N     I      1.00        5.00       5.00        5.00        5.00        1.00         7.00        7.00

1985->86
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1-
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      2.31        2.31       2.36        2.40        2.33                     2.33        2.33
MIN   I      2.31        2.13       2.27        2.35        2.20                     2.20        2.20
MAX   I      2.31        2.40       2.45        2.46        2.43                     2.43        2.43
N     I      1.00        5.00       5.00        5.00        5.00                     6.00        5.00

Overall summary of means
      I   SPRING                                          SUMMER        FALL          ICE    JUNE 1->
      I  OVERTURN        EPI        META        HYPO       STRAT     OVERTURN         FREE     MAY 31
-----------------------------------------------------------------------------------------------------
MEAN  I      2.51        2.39       2.44        2.46        2.41        2.64         2.43        2.42
MIN   I      2.31        2.31       2.36        2.40        2.33        2.64         2.33        2.33
MAX   I      2.66        2.48       2.55        2.58        2.51        2.64         2.53        2.50
N     I      3.00        3.00       3.00        3.00        3.00        1.00         3.00        3.00
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TIMBERWOLF                                          CALCULATION DATE: 86/06/16
CLIDUR  Chloride  mg/L

1983->84
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I      0.245       0.224        0.238        0.238         0.23                     0.232       0.217
MIN    I      0.245        0.18         0.20         0.20        0.194                     0.194        0.15
MAX    I      0.245        0.26         0.28         0.29        0.272                     0.272       0.272
N      I       1.00        5.00         5.00         5.00         5.00                      6.00        6.00

1984->85
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I       0.15       0.235        0.244        0.262        0.238         0.31        0.235       0.253
MIN    I       0.15        0.13         0.19         0.23        0.141         0.31        0.141       0.141
MAX    I       0.15        0.30         0.26         0.30        0.285         0.31         0.31        0.31
N      I       1.00        5.00         5.00         5.00         5.00         1.00         7.00        7.00

1985->86
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I       0.27       0.212        0.206         0.21        0.206                     0.216       0.206
MIN    I       0.27        0.12         0.15         0.12        0.126                     0.126       0.126
MAX    I       0.27        0.29         0.24         0.28        0.264                      0.27       0.264
N      I       1.00        5.00         5.00         5.00         5.00                      6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1-
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I      0.222       0.224        0.229        0.237        0.224         0.31        0.228       0.225
MIN    I       0.15       0.212        0.206         0.21        0.206         0.31        0.216       0.206
MAX    I       0.27       0.235        0.244        0.262        0.238         0.31        0.235       0.253
N      I       3.00        3.00         3.00         3.00         3.00         1.00         3.00        3.00



COLTR   Colour (true)

1983->84
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I       25.1        17.4         25.2         39.0         22.4                      22.9        22.7
MIN    I       25.1        13.0         22.0         24.0         19.7                      19.7        19.7
MAX    I       25.1        24.0         29.0         69.0         24.2                      25.1        24.2
N      I       1.00        5.00         5.00         4.00         4.00                      5.00        5.00

1984->85
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I       24.0        26.0         29.2         45.8         27.6         23.0         26.5        26.7
MIN    I       24.0        18.0         13.0         9.00         14.7         23.0         14.7        14.7
MAX    I       24.0        39.0         48.0         80.0         41.6         23.0         41.6        41.6
N      I       1.00        5.00         5.00         5.00         5.00         1.00         7.00        7.00

1985->86
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I       26.0        20.0         26.2         39.4         23.0                      23.5        23.0
MIN    I       26.0        16.0         20.0         22.0         20.3                      20.3        20.3
MAX    I       26.0        24.0         42.0         63.0         28.6                      28.6        28.6
N      I       1.00        5.00         5.00         5.00         5.00                      6.00        5.00

Overall summary of means
       I    SPRING                                              SUMMER        FALL          ICE     JUNE 1->
       I   OVERTURN         EPI         META         HYPO        STRAT     OVERTURN         FREE      MAY 31
--------------------------------------------------------------------------------------------------------------
MEAN   I       25.0        21.1         26.9         41.4         24.3         23.0         24.3        24.2
MIN    I       24.0        17.4         25.2         39.0         22.4         23.0         22.9        22.7
MAX    I       26.0        26.0         29.2         45.8         27.6         23.0         26.5        26.7
N      I       3.00        3.00         3.00         3.00         3.00         1.00         3.00        3.00
```

COND25 Conductivity (25 C)

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	27.0	27.0	28.3	29.1	27.7		27.6	27.8
MIN	I	27.0	26.0	27.0	28.0	26.8		26.8	26.8
MAX	I	27.0	27.8	29.4	30.0	28.4		28.4	28.6
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	28.6	27.4	28.9	30.0	28.0	27.5	28.0	27.8
MIN	I	28.6	27.1	26.9	29.2	27.4	27.5	27.4	26.8
MAX	I	28.6	27.7	30.8	30.9	28.4	27.5	28.6	28.4
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	26.8	26.2	27.5	27.9	26.7		26.7	26.7
MIN	I	26.8	25.9	26.8	27.2	26.5		26.5	26.5
MAX	I	26.8	26.7	28.5	28.5	27.0		27.0	27.0
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	27.5	26.8	28.2	29.0	27.5	27.5	27.4	27.4
MIN	I	26.8	26.2	27.5	27.9	26.7	27.5	26.7	26.7
MAX	I	26.6	27.4	28.9	30.0	28.0	27.5	28.0	27.8
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

DIC Dissolved Inorganic Carbon mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.717	0.40	1.23	2.00	0.85		0.828	0.82
MIN	I	0.717	0.34	0.64	1.13	0.618		0.618	0.618
MAX	I	0.717	0.50	1.72	3.17	1.08		1.08	1.08
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.67	0.40	1.55	2.30	0.913	0.82	0.865	0.902
MIN	I	0.67	0.28	0.82	1.20	0.638	0.82	0.638	0.638
MAX	I	0.67	0.62	2.68	3.75	1.14	0.82	1.14	1.14
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.93	0.462	1.59	2.16	0.685		0.892	0.885
MIN	I	0.93	0.26	0.85	1.34	0.715		0.715	0.715
MAX	I	0.93	0.64	2.30	2.85	1.04		1.04	1.04
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.772	0.421	1.46	2.15	0.882	0.82	0.862	0.869
MIN	I	0.67	0.40	1.23	2.00	0.85	0.82	0.828	0.82
MAX	I	0.93	0.462	1.59	2.30	0.913	0.82	0.892	0.902
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
TIMBERWOLF                                         CALCULATION DATE: 86/06/18
DOC     Dissolved Organic Carbon  mg/L

1983->84
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      3.72         3.48        3.66         3.84           3.58                        3.60        3.65
MIN     I      3.72         1.40        3.40         3.60           2.70                        2.70        2.70
MAX     I      3.72         4.50        3.80         4.10           3.97                        3.97        4.00
N       I      1.00         5.00        5.00         5.00           5.00                        6.00        6.00

1984->85
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      4.00         4.16        3.82         3.72           4.00          4.30          4.04        4.03
MIN     I      4.00         4.00        3.80         3.50           3.86          4.30          3.86        3.86
MAX     I      4.00         4.20        3.90         4.10           4.15          4.30          4.30        4.30
N       I      1.00         5.00        5.00         5.00           5.00          1.00          7.00        7.00

1985->86
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      3.90         4.28        3.64         3.80           4.14                        4.10        4.14
MIN     I      3.90         3.70        3.30         3.50           3.65                        3.65        3.65
MAX     I      3.90         5.20        4.10         4.40           4.92                        4.92        4.92
N       I      1.00         5.00        5.00         5.00           5.00                        6.00        5.00

Overall summary of means
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      3.87         3.97        3.71         3.79           3.91          4.30          3.92        3.94
MIN     I      3.72         3.48        3.64         3.72           3.58          4.30          3.60        3.65
MAX     I      4.00         4.28        3.82         3.84           4.14          4.30          4.10        4.14
N       I      3.00         3.00        3.00         3.00           3.00          1.00          3.00        3.00




FEUT    Iron  ug/L

1983->84
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      150.         43.0        148.         797.           145.                        146.        172.
MIN     I      150.         15.0        70.0         160.           64.8                        64.8        64.8
MAX     I      150.         65.0        310.         2000.          306.                        306.        306.
N       I      1.00         5.00        5.00         5.00           5.00                        6.00        6.00

1984->85
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      305.         101.        317.         811.           203.          320.          234.        224.
MIN     I      305.         70.0        125.         155.           118.          320.          118.        118.
MAX     I      305.         140.        920.         2100.          310.          320.          320.        320.
N       I      1.00         5.00        5.00         5.00           5.00          1.00          7.00        7.00

1985->86
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      230.         88.4        273.         645.           172.                        182.        172.
MIN     I      230.         61.0        116.         174.           120.                        120.        120.
MAX     I      230.         120.        630.         1500.          274.                        274.        274.
N       I      1.00         5.00        5.00         5.00           5.00                        6.00        5.00

Overall summary of means
        I    SPRING                                                 SUMMER        FALL           ICE    JUNE 1->
        I  OVERTURN         EPI         META         HYPO           STRAT     OVERTURN          FREE      MAY 31
-----------------------------------------------------------------------------------------------------------------
MEAN    I      228.         77.5        246.         751.           173.          320.          187.        189.
MIN     I      150.         43.0        148.         645.           145.          320.          146.        172.
MAX     I      305.         101.        317.         811.           203.          320.          234.        224.
N       I      3.00         3.00        3.00         3.00           3.00          1.00          3.00        3.00
```

TIMBERWOLF CALCULATION DATE: 86/06/18

FFIDUR Fluoride ug/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		43.6	40.7	41.8	42.2		42.2	42.3
MIN	I		39.2	36.1	35.2	36.8		36.8	36.8
MAX	I		46.5	45.0	47.5	46.2		46.2	46.2
N	I		4.00	4.00	4.00	4.00		4.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	42.9	46.4	45.6	45.7	45.7	46.1	45.3	44.6
MIN	I	42.9	44.1	41.9	40.7	42.7	46.1	42.7	38.0
MAX	I	42.9	48.4	49.3	52.0	48.5	46.1	48.5	48.5
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	38.0	45.6	43.5	45.1	44.8		43.7	44.8
MIN	I	38.0	43.8	41.5	41.1	42.8		38.0	42.6
MAX	I	38.0	47.4	47.9	49.8	47.6		47.6	47.6
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	40.5	45.2	43.3	44.2	44.2	46.1	43.7	43.9
MIN	I	38.0	43.6	40.7	41.8	42.2	46.1	42.2	42.3
MAX	I	42.9	46.4	45.6	45.7	45.7	46.1	45.3	44.8
N	I	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

KKUR Potassium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.50	0.46	0.46	0.472	0.461		0.468	0.458
MIN	I	0.50	0.44	0.44	0.46	0.442		0.442	0.44
MAX	I	0.50	0.48	0.48	0.48	0.475		0.50	0.475
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.44	0.45	0.464	0.48	0.457		0.454	0.457
MIN	I	0.44	0.43	0.45	0.46	0.444		0.44	0.444
MAX	I	0.44	0.47	0.48	0.52	0.472		0.472	0.472
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.46	0.495	0.49	0.492	0.494		0.487	0.494
MIN	I	0.46	0.44	0.45	0.45	0.446		0.446	0.446
MAX	I	0.46	0.55	0.53	0.54	0.531		0.531	0.531
N	I	1.00	4.00	5.00	5.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.467	0.468	0.471	0.481	0.471		0.47	0.47
MIN	I	0.44	0.45	0.46	0.472	0.457		0.454	0.457
MAX	I	0.50	0.495	0.49	0.492	0.494		0.487	0.494
N	I	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00

```
TIMBERWOLF                                        CALCULATION DATE: 86/06/18
MGUR    Magnesium  mg/L

1983->84
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.596      0.624       0.632       0.616      0.627                    0.622       0.637
MIN   I      0.596      0.60        0.60        0.60       0.609                    0.596       0.609
MAX   I      0.596      0.66        0.68        0.62       0.666                    0.666       0.69
N     I      1.00       5.00        5.00        5.00       5.00                     6.00        6.00

1984->85
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.69       0.667       0.68        0.684      0.673       0.69         0.678       0.663
MIN   I      0.69       0.64        0.65        0.63       0.642       0.69         0.642       0.59
MAX   I      0.69       0.69        0.70        0.72       0.695       0.69         0.695       0.695
N     I      1.00       5.00        5.00        5.00       5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.59       0.62        0.634       0.644      0.625                    0.619       0.625
MIN   I      0.59       0.59        0.59        0.60       0.591                    0.59        0.591
MAX   I      0.59       0.65        0.68        0.71       0.652                    0.652       0.652
N     I      1.00       5.00        5.00        5.00       5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      0.625      0.637       0.649       0.648      0.641       0.69         0.639       0.642
MIN   I      0.59       0.62        0.632       0.616      0.625       0.69         0.619       0.625
MAX   I      0.69       0.667       0.68        0.684      0.673       0.69         0.678       0.663
N     I      3.00       3.00        3.00        3.00       3.00        1.00         3.00        3.00




MNUT    Manganese  ug/L

1983->84
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      29.0       14.0        64.8        166.       44.1                     41.6        44.8
MIN   I      29.0       5.00        27.0        40.0       20.9                     20.9        20.9
MAX   I      29.0       23.0        121.        355.       78.8                     78.8        78.8
N     I      1.00       5.00        5.00        5.00       5.00                     6.00        6.00

1984->85
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      48.0       26.4        114.        209.       62.8        61.0         60.4        60.6
MIN   I      48.0       14.0        44.0        48.0       40.1        61.0         40.1        40.1
MAX   I      48.0       38.0        280.        450.       87.8        61.0         87.8        87.8
N     I      1.00       5.00        5.00        5.00       5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      49.0       18.2        108.        168.       48.1                     48.2        48.1
MIN   I      49.0       12.0        17.0        28.0       18.3                     18.3        18.3
MAX   I      49.0       32.0        200.        310.       70.5                     70.5        70.5
N     I      1.00       5.00        5.00        5.00       5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                          SUMMER       FALL         ICE     JUNE 1->
      I   OVERTURN        EPI         META        HYPO      STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I      42.0       19.5        95.6        181.       51.7        61.0         50.1        51.1
MIN   I      29.0       14.0        64.8        166.       44.1        61.0         41.6        44.8
MAX   I      49.0       26.4        114.        209.       62.8        61.0         60.4        60.6
N     I      3.00       3.00        3.00        3.00       3.00        1.00         3.00        3.00
```

TIMBERWOLF CALCULATION DATE: 86/06/18

NAUR Sodium mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.65	0.60	0.56	0.62	0.587		0.597	0.607
MIN	I	0.65	0.55	0.50	0.60	0.554		0.554	0.554
MAX	I	0.65	0.65	0.60	0.65	0.631		0.65	0.71
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.71	0.656	0.656	0.664	0.657	0.67	0.667	0.652
MIN	I	0.71	0.63	0.63	0.64	0.632	0.67	0.632	0.61
MAX	I	0.71	0.68	0.67	0.70	0.68	0.67	0.71	0.68
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN	I	0.61	0.65	0.618	0.622	0.641		0.635	0.641
MIN	I	0.61	0.64	0.60	0.59	0.63		0.61	0.63
MAX	I	0.61	0.66	0.65	0.64	0.653		0.653	0.653
N	I	1.00	4.00	5.00	5.00	4.00		5.00	4.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN	I	0.657	0.635	0.611	0.635	0.628	0.67	0.633	0.634
MIN	I	0.61	0.60	0.56	0.62	0.587	0.67	0.597	0.607
MAX	I	0.71	0.656	0.656	0.664	0.657	0.67	0.667	0.652
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

NNHTFR Ammonium as N ug/L DETECTION LIMIT USED:1

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	9.89	2.20	10.6L	33.2	8.77L		8.99L	7.98
MIN	I	9.89	1.00	1.00	5.00	1.35		1.35	1.35
MAX	I	9.89	5.00	20.0	71.0	14.2		14.2	14.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1- MAY 31
MEAN	I	4.00	2.80L	14.4	29.0	9.96L	8.00	8.83L	9.83L
MIN	I	4.00	1.00	2.00	3.00	1.54	8.00	1.54	1.54
MAX	I	4.00	5.00	24.0	55.0	18.4	8.00	18.4	18.4
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	11.0	4.80	17.2	30.8	12.2		12.0	12.2
MIN	I	11.0	3.00	3.00	1.00	4.07		4.07	4.07
MAX	I	11.0	9.00	40.0	66.0	21.2		21.2	21.2
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	8.30	3.27	14.1	31.0	10.3	8.00	9.94	10.0
MIN	I	4.00	2.20	10.6	29.0	8.77	8.00	8.83	7.98
MAX	I	11.0	4.80	17.2	33.2	12.2	8.00	12.0	12.2
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

```
TIMBERWOLF                                      CALCULATION DATE: 86/06/18
NNOTFR  Nitrate and Nitrite as N  ug/L          DETECTION LIMIT USED:2

1983->84
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     125.       12.4L      67.0       159.         47.3L                    60.3L       59.4L
MIN   I     125.       2.00       50.0       123.         35.2                     35.2        35.2
MAX   I     125.       54.0       82.0       220.         78.6                     125.        120.
N     I     1.00       5.00       5.00       5.00         5.00                     6.00        6.00

1984->85
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     120.       12.2       109.       171.         55.1       30.0          60.8        70.8
MIN   I     120.       3.00       55.0       120.         39.8       30.0          30.0        30.0
MAX   I     120.       35.0       195.       250.         71.6       30.0          120.        190.
N     I     1.00       5.00       5.00       5.00         5.00       1.00          7.00        7.00

1985->86
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     190.       40.4       180.       233.         90.1                     107.        90.1
MIN   I     190.       5.00       125.       190.         38.8                     38.8        38.8
MAX   I     190.       140.       215.       285.         160.                     190.        160.
N     I     1.00       5.00       5.00       5.00         5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     145.       21.7       119.       188.         64.2       30.0          75.9        73.4
MIN   I     120.       12.2       67.0       159.         47.3       30.0          60.3        59.4
MAX   I     190.       40.4       180.       233.         90.1       30.0          107.        90.1
N     I     3.00       3.00       3.00       3.00         3.00       1.00          3.00        3.00



NNTKUR  Total Kjeldahl Nitrogen  ug/L

1983->84
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     221.       195.       211.       245.         205.                     208.        204.
MIN   I     221.       180.       195.       210.         192.                     192.        192.
MAX   I     221.       220.       225.       280.         219.                     221.        219.
N     I     1.00       5.00       5.00       5.00         5.00                     6.00        6.00

1984->85
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     200.       230.       232.       250.         232.       260.          231.        236.
MIN   I     200.       210.       210.       230.         215.       260.          200.        215.
MAX   I     200.       260.       270.       270.         264.       260.          264.        264.
N     I     1.00       5.00       5.00       5.00         5.00       1.00          7.00        7.00

1985->86
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     230.       228.       226.       250.         232.                     231.        232.
MIN   I     230.       210.       190.       210.         210.                     210.        210.
MAX   I     230.       240.       270.       300.         254.                     254.        254.
N     I     1.00       5.00       5.00       5.00         5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                            SUMMER      FALL          ICE    JUNE 1->
      I  OVERTURN        EPI       META       HYPO        STRAT    OVERTURN         FREE      MAY 31
------------------------------------------------------------------------------------------------------
MEAN  I     217.       218.       223.       248.         223.       260.          223.        224.
MIN   I     200.       195.       211.       245.         205.       260.          208.        204.
MAX   I     230.       230.       232.       250.         232.       260.          231.        236.
N     I     3.00       3.00       3.00       3.00         3.00       1.00          3.00        3.00
```

```
TIMBERWOLF                                   CALCULATION DATE: 86/06/18
PH      pH

1983->84
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       5.98        6.37         5.86        5.75         6.10                     6.08        6.08
MIN   I       5.98        6.27         5.75        5.69         5.99                     5.98        5.99
MAX   I       5.98        6.43         5.94        5.80         6.15                     6.15        6.15
N     I       1.00        5.00         5.00        5.00         5.00                     6.00        6.00

1984->85
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       5.99        6.30         5.83        5.79         6.10        6.18         6.10        6.07
MIN   I       5.99        6.23         5.75        5.74         6.06        6.18         5.99        5.8[illegible]
MAX   I       5.99        6.35         5.92        5.84         6.16        6.18         6.18        6.18
N     I       1.00        5.00         5.00        5.00         5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       5.81        6.27         5.80        5.70         6.09                     6.05        6.09
MIN   I       5.81        6.11         5.61        5.59         5.96                     5.81        5.96
MAX   I       5.81        6.43         5.91        5.84         6.24                     6.24        6.24
N     I       1.00        5.00         5.00        5.00         5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       5.93        6.32         5.83        5.75         6.10        6.18         6.07        6.08
MIN   I       5.81        6.27         5.80        5.70         6.09        6.18         6.05        6.07
MAX   I       5.99        6.37         5.86        5.79         6.10        6.18         6.10        6.0[illegible]
N     I       3.00        3.00         3.00        3.00         3.00        1.00         3.00        3.00




PPUT    Total Phosphorous  ug/L

1983->84
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       8.20        4.81         6.81        10.1         6.17                     6.51        6.39
MIN   I       8.20        4.10         5.47        7.27         5.14                     5.14        5.14
MAX   I       8.20        5.50         7.97        14.0         7.40                     8.20        7.40
N     I       1.00        5.00         5.00        5.00         5.00                     6.00        6.00

1984->85
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       7.30        6.01         7.52        9.95         6.77        6.70         6.84        6.85
MIN   I       7.30        4.50         5.63        6.47         5.73        6.70         5.73        5.73
MAX   I       7.30        6.87         10.5        15.1         7.46        6.70         7.46        7.46
N     I       1.00        5.00         5.00        5.00         5.00        1.00         7.00        7.00

1985->86
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       7.40        6.18         8.02        10.2         6.93                     7.01        6.93
MIN   I       7.40        5.60         6.73        6.93         6.36                     6.36        6.36
MAX   I       7.40        6.80         9.27        13.1         7.89                     7.89        7.89
N     I       1.00        5.00         5.00        5.00         5.00                     6.00        5.00

Overall summary of means
      I    SPRING                                             SUMMER       FALL          ICE     JUNE 1->
      I   OVERTURN         EPI         META        HYPO        STRAT    OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------------------------------------------
MEAN  I       7.63        5.67         7.45        10.1         6.63        6.70         6.79        6.71
MIN   I       7.30        4.81         6.81        9.95         6.17        6.70         6.51        6.36
MAX   I       8.20        6.18         8.02        10.2         6.93        6.70         7.01        6.93
N     I       3.00        3.00         3.00        3.00         3.00        1.00         3.00        3.00
```

TIMBERWOLF CALCULATION DATE: 86/06/18

SIO3UR Silicates mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.48	0.72	1.18	1.83	0.988		1.07	1.07
MIN	I	1.48	0.46	1.00	1.50	0.758		0.758	0.758
MAX	I	1.48	1.12	1.26	2.06	1.23		1.48	1.50
N	I	1.00	5.00	5.00	5.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.50	0.674	1.32	1.74	0.963	0.83	1.02	[illegible]
MIN	I	1.50	0.45	1.15	1.41	0.708	0.83	0.708	0.708
MAX	I	1.50	1.04	1.77	2.00	1.19	0.83	1.50	1.39
N	I	1.00	5.00	5.00	5.00	5.00	1.00	7.00	7.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.39	1.01	1.51	1.74	1.19		1.22	1.19
MIN	I	1.39	0.90	1.32	1.50	1.04		1.04	1.04
MAX	I	1.39	1.26	1.73	1.89	1.33		1.39	1.33
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.46	0.803	1.34	1.77	1.05	0.83	1.10	1.09
MIN	I	1.39	0.674	1.18	1.74	0.963	0.83	1.02	1.00
MAX	I	1.50	1.01	1.51	1.83	1.19	0.83	1.22	1.19
N	I	3.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00

SSO4UR Sulphate as SO4 mg/L

1983->84

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	8.02	7.31	7.31	7.12	7.29		7.41	7.29
MIN	I	8.02	7.08	6.98	6.31	6.98		6.98	6.98
MAX	I	8.02	7.66	7.59	7.60	7.62		8.02	[illegible]
N	I	1.00	5.00	5.00	5.00	5.00		6.00	5.00

1984->85

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		7.49	7.45	7.19	7.47	7.11	7.40	7.31
MIN	I		7.41	7.08	6.62	7.35	7.11	7.11	6.90
MAX	I		7.66	7.71	7.73	7.69	7.11	7.69	7.69
N	I		4.00	4.00	4.00	4.00	1.00	5.00	6.00

1985->86

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	6.90	6.69	6.59	6.58	6.73		6.77	6.73
MIN	I	6.90	6.48	6.24	6.35	6.57		6.57	6.57
MAX	I	6.90	6.97	6.81	6.75	6.90		6.90	6.90
N	I	1.00	4.00	4.00	3.00	3.00		4.00	3.00

Overall summary of means

	I	SPRING OVERTURN	EPI	META	HYPO	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	7.46	7.16	7.12	6.96	7.16	7.11	7.19	7.11
MIN	I	6.90	6.69	6.59	6.58	6.73	7.11	6.77	6.73
MAX	I	8.02	7.49	7.45	7.19	7.47	7.11	7.41	[illegible]
N	I	2.00	3.00	3.00	3.00	3.00	1.00	[illegible]	

Appendix 2 - Chlorophyll and Secchi Disc Data

BONNECHERE

Calculation date: 86/06/17

1983->84

	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	831101	830425	830601
END	830520	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	841106	840424	840601
END	840520	841105	841214	841214	850531

1985->86

	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	851120	850425	850601
END	850512	851119	851204	851204	860531

BONNECHERE

CALCULATION DATE: 86/06/17

CHLRAC Chlorophyll-A, corrected ug/L

1983->84

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.40	1.48		1.47	1.48
MIN	I	1.40	0.90		0.90	0.90
MAX	I	1.40	2.40		2.40	2.40
N	I	1.00	5.00		6.00	5.00

1984->85

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		0.40	0.40	0.40	0.30
MIN	I		-.50	0.40	-.50	-.50
MAX	I		1.10	0.40	1.10	1.10
N	I		3.00	1.00	4.00	5.00

1985->86

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	-.10	1.20		0.983	1.20
MIN	I	-.10	-.20		-.20	-.20
MAX	I	-.10	2.10		2.10	2.10
N	I	1.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.65	1.03	0.40	0.95	0.993
MIN	I	-.10	0.40	0.40	0.40	0.30
MAX	I	1.40	1.48	0.40	1.47	1.48
N	I	2.00	3.00	1.00	3.00	3.00

```
BONNECHERE                                              CALCULATION DATE: 86/06/17
CHLRAT  Chlorophyll-A  ug/L

1983->84
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       1.50        1.76                     1.72        1.67
MIN   I       1.50        1.10                     1.10        1.10
MAX   I       1.50        2.60                     2.60        2.60
N     I       1.00        5.00                     6.00        6.00

1984->85
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       1.20        2.40        0.80         1.93        1.90
MIN   I       1.20        1.00        0.80         0.80        0.80
MAX   I       1.20        4.60        0.80         4.60        4.60
N     I       1.00        4.00        1.00         6.00        6.00

1985->86
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       1.00        2.08                     1.90        2.08
MIN   I       1.00        1.50                     1.00        1.50
MAX   I       1.00        2.70                     2.70        2.70
N     I       1.00        5.00                     6.00        5.00

Overall summary of means
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       1.23        2.08        0.80         1.85        1.86
MIN   I       1.00        1.76        0.80         1.72        1.67
MAX   I       1.50        2.40        0.80         1.93        2.08
N     I       3.00        3.00        1.00         3.00        3.00
```

```
BONNECHERE                                              CALCULATION DATE: 86/06/17
FWSDDP  Secchi Disc Depth

1983->84
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       4.00        5.40                     5.17        5.20
MIN   I       4.00        4.30                     4.00        4.20
MAX   I       4.00        6.00                     6.00        6.00
N     I       1.00        5.00                     6.00        6.00

1984->85
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       4.20        5.88        4.80         5.49        5.40
MIN   I       4.20        4.70        4.80         4.20        3.60
MAX   I       4.20        6.70        4.80         6.70        6.70
N     I       1.00        5.00        1.00         7.00        7.00

1985->86
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       3.60        5.66                     5.32        5.66
MIN   I       3.60        4.80                     3.60        4.80
MAX   I       3.60        6.70                     6.70        6.70
N     I       1.00        5.00                     6.00        5.00

Overall summary of means
      I     SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN         FREE      MAY 31
-------------------------------------------------------------------
MEAN  I       3.93        5.65        4.80         5.32        5.42
MIN   I       3.60        5.40        4.80         5.17        5.20
MAX   I       4.20        5.88        4.80         5.49        5.66
N     I       3.00        3.00        1.00         3.00        3.00
```

```
BIG PORCUPINE
                                                    Calculation date: 86/06/17

1983->84
           SPRING    SUMMER       FALL         ICE  JUNE 1->
         OVERTURN     STRAT  OVERTURN         FREE    MAY 31
------------------------------------------------------------
 START     830425    830521    831101     830425    830601
   END     830520    831031    831118     831118    840531

1984->85
           SPRING    SUMMER       FALL         ICE  JUNE 1->
         OVERTURN     STRAT  OVERTURN         FREE    MAY 31
------------------------------------------------------------
 START     840425    840521    841106     840425    840601
   END     840520    841105    841214     841214    850531

1985->86
           SPRING    SUMMER       FALL         ICE  JUNE 1->
         OVERTURN     STRAT  OVERTURN         FREE    MAY 31
------------------------------------------------------------
 START     850425    850513    851120     850425    850601
   END     850512    851119    851204     851204    860531
```

```
BIG PORCUPINE                                       CALCULATION DATE: 86/06/17
CHLRAC  Chlorophyll-A, corrected  ug/L

1983->84
      I     SPRING       SUMMER         FALL          ICE      JUNE 1->
      I   OVERTURN        STRAT     OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------
MEAN  I       1.60         1.36                      1.40          1.36
MIN   I       1.60         0.70                      0.70          0.70
MAX   I       1.60         2.60                      2.60          2.60
N     I       1.00         5.00                      6.00          5.00

1984->85
      I     SPRING       SUMMER         FALL          ICE      JUNE 1->
      I   OVERTURN        STRAT     OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------
MEAN  I                    2.05         0.60         1.76          1.38
MIN   I                    1.20         0.60         0.60          -.50
MAX   I                    3.10         0.60         3.10          3.10
N     I                    4.00         1.00         5.00          6.00

1985->86
      I     SPRING       SUMMER         FALL          ICE      JUNE 1->
      I   OVERTURN        STRAT     OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------
MEAN  I       -.50         1.70                      1.33          1.70
MIN   I       -.50         0.60                      -.50          0.60
MAX   I       -.50         3.60                      3.60          3.60
N     I       1.00         5.00                      6.00          5.00

Overall summary of means
      I     SPRING       SUMMER         FALL          ICE      JUNE 1->
      I   OVERTURN        STRAT     OVERTURN         FREE        MAY 31
-----------------------------------------------------------------------
MEAN  I       0.55         1.70         0.60         1.50          1.48
MIN   I       -.50         1.36         0.60         1.33          1.36
MAX   I       1.60         2.05         0.60         1.76          1.70
N     I       2.00         3.00         1.00         3.00          3.00
```

```
BIG PORCUPINE                                          CALCULATION DATE: 86/06/17
CHLRAT   Chlorophyll-A  ug/L

1983->84
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       1.80          1.74                      1.75         1.77
MIN   I       1.80          1.10                      1.10         1.10
MAX   I       1.80          3.10                      3.10         3.10
N     I       1.00          5.00                      6.00         6.00

1984->85
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       1.90          2.78          1.10        2.35         2.13
MIN   I       1.90          1.70          1.10        1.10         0.60
MAX   I       1.90          3.60          1.10        3.60         3.60
N     I       1.00          4.00          1.00        6.00         6.00

1985->86
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       0.60          2.38                      2.08         2.28
MIN   I       0.60          0.80                      0.60         0.80
MAX   I       0.60          4.60                      4.60         4.60
N     I       1.00          5.00                      6.00         5.00

Overall summary of means
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       1.43          2.30          1.10        2.06         2.09
MIN   I       0.60          1.74          1.10        1.75         1.77
MAX   I       1.90          2.78          1.10        2.35         2.28
N     I       3.00          3.00          1.00        3.00         3.00
```

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BIG PORCUPINE                                          CALCULATION DATE: 86/06/17
FWSDDP  Secchi Disc Depth

1983->84
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       4.50          7.04                      6.62         6.63
MIN   I       4.50          5.90                      4.50         4.60
MAX   I       4.50          9.00                      9.00         9.00
N     I       1.00          5.00                      6.00         6.00

1984->85
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       4.60          6.70          4.00        6.01         6.03
MIN   I       4.60          4.80          4.00        4.00         4.00
MAX   I       4.60          8.70          4.00        8.70         8.70
N     I       1.00          5.00          1.00        7.00         7.00

1985->86
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       4.70          6.90                      6.53         6.90
MIN   I       4.70          5.00                      4.70         5.00
MAX   I       4.70          10.0                      10.0         10.0
N     I       1.00          5.00                      6.00         5.00

Overall summary of means
      I     SPRING        SUMMER          FALL         ICE     JUNE 1->
      I   OVERTURN         STRAT      OVERTURN        FREE       MAY 31
-----------------------------------------------------------------------
MEAN  I       4.60          6.88          4.00        6.39         6.52
MIN   I       4.50          6.70          4.00        6.01         6.03
MAX   I       4.70          7.04          4.00        6.62         6.90
N     I       3.00          3.00          1.00        3.00         3.00
```

```
CROWN
                                          Calculation date: 86/06/17

1983->84
          SPRING    SUMMER      FALL       ICE  JUNE 1->
        OVERTURN     STRAT  OVERTURN      FREE    MAY 31
-------------------------------------------------------
 START    830425    830521    831101    830425    830601
   END    830520    831031    831118    831118    840531

1984->85
          SPRING    SUMMER      FALL       ICE  JUNE 1->
        OVERTURN     STRAT  OVERTURN      FREE    MAY 31
-------------------------------------------------------
 START    840425    840521    841106    840425    840601
   END    840520    841105    841214    841214    850531

1985->86
          SPRING    SUMMER      FALL       ICE  JUNE 1->
        OVERTURN     STRAT  OVERTURN      FREE    MAY 31
-------------------------------------------------------
 START    850425    850513    851120    850425    850601
   END    850512    851119    851204    851204    860531
```

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CROWN                                        CALCULATION DATE: 86/06/17
CHLRAC  Chlorophyll-A, corrected  ug/L

1983->84
      I     SPRING      SUMMER        FALL         ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------
MEAN  I       0.90        1.20                    1.15        1.20
MIN   I       0.90        0.40                    0.40        0.40
MAX   I       0.90        2.00                    2.00        2.00
N     I       1.00        5.00                    6.00        5.00

1984->85
      I     SPRING      SUMMER        FALL         ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------
MEAN  I                   0.85        1.00        0.88       0.683
MIN   I                   0.50        1.00        0.50        -.30
MAX   I                   1.10        1.00        1.10        1.10
N     I                   4.00        1.00        5.00        6.00

1985->86
      I     SPRING      SUMMER        FALL         ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------
MEAN  I       -.30        1.16                   0.917        1.16
MIN   I       -.30        0.50                    -.30        0.50
MAX   I       -.30        1.80                    1.80        1.80
N     I       1.00        5.00                    6.00        5.00

Overall summary of means
      I     SPRING      SUMMER        FALL         ICE    JUNE 1->
      I   OVERTURN       STRAT    OVERTURN        FREE      MAY 31
------------------------------------------------------------------
MEAN  I       0.30        1.07        1.00       0.982        1.01
MIN   I       -.30        0.85        1.00        0.88       0.683
MAX   I       0.90        1.20        1.00        1.15        1.20
N     I       2.00        3.00        1.00        3.00        3.00
```

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CROWN                                                CALCULATION DATE: 86/06/17
CHLRAT   Chlorophyll-A  ug/L

1983->84
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      1.00          1.38         1.60         1.36        1.43
MIN    I      1.00          0.60         1.60         0.60        0.60
MAX    I      1.00          2.00         1.60         2.00        2.00
N      I      1.00          5.00         1.00         7.00        7.00

1984->85
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      1.50          1.45         1.50         1.47        1.33
MIN    I      1.50          1.20         1.50         1.20        0.70
MAX    I      1.50          1.80         1.50         1.80        1.80
N      I      1.00          4.00         1.00         6.00        6.00

1985->86
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      0.70          1.84                      1.65        1.84
MIN    I      0.70          0.90                      0.70        0.90
MAX    I      0.70          2.30                      2.30        2.30
N      I      1.00          5.00                      6.00        5.00

Overall summary of means
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      1.07          1.56         1.55         1.49        1.53
MIN    I      0.70          1.38         1.50         1.36        1.33
MAX    I      1.50          1.84         1.60         1.65        1.84
N      I      3.00          3.00         2.00         3.00        3.00
```

```
CROWN                                                CALCULATION DATE: 86/06/17
FWSDDP   Secchi Disc Depth

1983->84
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      8.00          7.26         6.20         7.21        6.93
MIN    I      8.00          6.50         6.20         6.20        6.00
MAX    I      8.00          8.50         6.20         8.50        8.50
N      I      1.00          5.00         1.00         7.00        7.00

1984->85
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      6.00          6.92         5.50         6.59        6.73
MIN    I      6.00          5.00         5.50         5.00        5.00
MAX    I      6.00          9.10         5.50         9.10        9.10
N      I      1.00          5.00         1.00         7.00        7.00

1985->86
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      7.00          7.02                      7.02        7.02
MIN    I      7.00          5.80                      5.80        5.80
MAX    I      7.00          9.40                      9.40        9.40
N      I      1.00          5.00                      6.00        5.00

Overall summary of means
       I     SPRING       SUMMER         FALL          ICE    JUNE 1->
       I  OVERTURN         STRAT     OVERTURN         FREE      MAY 31
---------------------------------------------------------------------
MEAN   I      7.00          7.07         5.85         6.94  [illegible]
MIN    I      6.00          6.92         5.50         6.59  [illegible]
MAX    I      8.00          7.26         6.20         7.21        7.02
N      I      3.00          3.00         2.00         3.00        3.00
```

KIMBALL

Calculation date: 86/06 17

1983->84

	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	830425	830521	831101	830425	830601
END	830520	831031	831118	831118	840531

1984->85

	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	840425	840521	841106	840425	840601
END	840520	841105	841214	841214	840531

1985->86

	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
START	850425	850513	851120	850425	850601
END	850512	851119	851204	851204	860531

KIMBALL

CALCULATION DATE: 86/06 17

CHLRAC Chlorophyll-A, corrected ug/L

1983->84

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.00	1.04		1.03	1.04
MIN	I	1.00	0.70		0.70	0.70
MAX	I	1.00	1.70		1.70	1.70
N	I	1.00	5.00		6.00	5.00

1984->85

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I		1.23	0.80	1.14	
MIN	I		0.40	0.80	0.40	
MAX	I		1.80	0.80	1.80	
N	I		4.00	1.00	5.00	

1985->86

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	-.20	1.00		0.80	1.00
MIN	I	-.20	0.20		-.20-	0.20
MAX	I	-.20	1.70		1.70	1.70
N	I	1.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.40	1.09	0.80	0.991	1.02
MIN	I	-.20	1.00	0.80	0.80	1.00
MAX	I	1.00	1.23	0.80	1.14	1.04
N	I	2.00	3.00	1.00	3.00	2.00

```
KIMBALL                                                CALCULATION DATE: 06/06/17
CHLRAT  Chlorophyll-A  ug/L

1983->84
     I     SPRING        SUMMER         FALL          ICE     JUNE 1-
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       1.20          1.40                        1.37        1.37
MIN   I       1.20          1.00                        1.00        1.00
MAX   I       1.20          2.10                        2.10        2.10
N     I       1.00          5.00                        6.00        6.00

1984->85
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       1.20          1.93         1.20       1.68
MIN   I       1.20          1.20         1.20       1.20
MAX   I       1.20          2.60         1.20       2.60
N     I       1.00          4.00         1.00       6.00

1985->86
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       0.50          1.50                        1.33        1.50
MIN   I       0.50          0.70                        0.50        0.70
MAX   I       0.50          1.90                        1.90        1.90
N     I       1.00          5.00                        6.00        5.00

Overall summary of means
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I      0.967          1.61         1.20       1.46        1.43
MIN   I       0.50          1.40         1.20       1.33        1.37
MAX   I       1.20          1.93         1.20       1.68        1.50
N     I       3.00          3.00         1.00       3.00        2.00
```

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KIMBALL                                                CALCULATION DATE: 06/06/17
FWSDDF  Secchi Disc Depth

1983->84
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       7.50          7.18                        7.24        6.94
MIN   I       7.50          6.30                        6.30        6.00
MAX   I       7.50          8.00                        8.00        8.00
N     I       1.00          4.00                        5.00        5.00

1984->85
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       6.00          6.90         6.50       6.71
MIN   I       6.00          5.00         6.50       5.00
MAX   I       6.00          9.00         6.50       9.00
N     I       1.00          5.00         1.00       7.00

1985->86
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       5.30          7.80                        7.38        7.80
MIN   I       5.30          6.20                        5.30        6.20
MAX   I       5.30          9.00                        9.00        9.00
N     I       1.00          5.00                        6.00        5.00

Overall summary of means
     I     SPRING        SUMMER         FALL          ICE     JUNE 1->
     I   OVERTURN         STRAT     OVERTURN         FREE      MAY 31
-----------------------------------------------------------------------
MEAN  I       6.27          7.29         6.50       7.11        7.37
MIN   I       5.30          6.90         6.50       6.71        6.94
MAX   I       7.50          7.80         6.50       7.38        7.80
N     I       3.00          3.00         1.00       3.00        2.00
```

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LOUISA
                                                 Calculation date: 86/06/17

1983->84
          SPRING     SUMMER       FALL        ICE  JUNE 1->
        OVERTURN      STRAT   OVERTURN       FREE    MAY 31
-----------------------------------------------------------
 START    830425     830521     831101     830425    830601
   END    830520     831031     831118     831118    840531

1984->85
          SPRING     SUMMER       FALL        ICE  JUNE 1->
        OVERTURN      STRAT   OVERTURN       FREE    MAY 31
-----------------------------------------------------------
 START    840425     840521     841106     840425    840601
   END    840520     841105     841214     841214    850531

1985->86
          SPRING     SUMMER       FALL        ICE  JUNE 1->
        OVERTURN      STRAT   OVERTURN       FREE    MAY 31
-----------------------------------------------------------
 START    850425     850513     851120     850425    850601
   END    850512     851119     851204     851204    860531
```

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LOUISA                                            CALCULATION DATE: 86/06/17
CHLRAC  Chlorophyll-A, corrected  ug/L

1983->84
      I     SPRING       SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        STRAT    OVERTURN         FREE       MAY 31
---------------------------------------------------------------------
MEAN  I       0.50         1.05                     0.94         1.05
MIN   I       0.50         0.50                     0.50         0.50
MAX   I       0.50         1.90                     1.90         1.90
N     I       1.00         4.00                     5.00         4.00

1984->85
      I     SPRING       SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        STRAT    OVERTURN         FREE       MAY 31
---------------------------------------------------------------------
MEAN  I                    1.20        0.60         1.08        0.917
MIN   I                    0.30        0.60         0.30         0.10
MAX   I                    1.90        0.60         1.90         1.90
N     I                    4.00        1.00         5.00         6.00

1985->86
      I     SPRING       SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        STRAT    OVERTURN         FREE       MAY 31
---------------------------------------------------------------------
MEAN  I       0.10         1.04                    0.883         1.04
MIN   I       0.10         0.60                     0.10         0.60
MAX   I       0.10         2.30                     2.30         2.30
N     I       1.00         5.00                     6.00         5.00

Overall summary of means
      I     SPRING       SUMMER        FALL          ICE     JUNE 1->
      I   OVERTURN        STRAT    OVERTURN         FREE       MAY 31
---------------------------------------------------------------------
MEAN  I       0.30         1.10        0.60        0.968         1.00
MIN   I       0.10         1.04        0.60        0.883        0.917
MAX   I       0.50         1.20        0.60         1.08         1.05
N     I       2.00         3.00        1.00         3.00         3.00
```

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LOUISA                                                  CALCULATION DATE: 86/06/17
CHLRAT  Chlorophyll-A  ug/L

1983->84
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       1.00        1.48                      1.38         1.42
MIN    I       1.00        0.70                      0.70         0.70
MAX    I       1.00        2.30                      2.30         2.30
N      I       1.00        4.00                      5.00         5.00

1984->85
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       1.20        1.85        0.80          1.57         1.48
MIN    I       1.20        0.70        0.80          0.70         0.70
MAX    I       1.20        2.90        0.80          2.90         2.90
N      I       1.00        4.00        1.00          6.00         6.00

1985->86
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       0.70        1.54                      1.40         1.54
MIN    I       0.70        1.00                      0.70         1.00
MAX    I       0.70        2.70                      2.70         2.70
N      I       1.00        5.00                      6.00         5.00

Overall summary of means
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I      0.967        1.62        0.80          1.45         1.48
MIN    I       0.70        1.48        0.80          1.38         1.42
MAX    I       1.20        1.85        0.80          1.57         1.54
N      I       3.00        3.00        1.00          3.00         3.00
```

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LOUISA                                                  CALCULATION DATE: 86/06/17
FWSDDP  Secchi Disc Depth

1983->84
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       6.00        7.13                      6.90         6.60
MIN    I       6.00        5.60                      5.60         4.50
MAX    I       6.00        9.40                      9.40         9.40
N      I       1.00        4.00                      5.00         5.00

1984->85
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       4.50        6.36        6.00          6.04         6.26
MIN    I       4.50        5.00        6.00          4.50         5.00
MAX    I       4.50        7.80        6.00          7.80         7.80
N      I       1.00        5.00        1.00          7.00         7.00

1985->86
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       6.00        6.76                      6.63         6.76
MIN    I       6.00        5.00                      5.00         5.00
MAX    I       6.00        10.0                      10.0         10.0
N      I       1.00        5.00                      6.00         5.00

Overall summary of means
       I     SPRING      SUMMER        FALL           ICE     JUNE 1->
       I   OVERTURN       STRAT    OVERTURN          FREE       MAY 31
-----------------------------------------------------------------------
MEAN   I       5.50        6.75        6.00          6.53         6.54
MIN    I       4.50        6.36        6.00          6.04         6.26
MAX    I       6.00        7.13        6.00          6.90         6.76
N      I       3.00        3.00        1.00          3.00         3.00
```

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NUNIKANI
                                                      Calculation date: 86/06/17

1983->84
           SPRING     SUMMER       FALL        ICE  JUNE 1->
         OVERTURN      STRAT   OVERTURN       FREE    MAY 31
-------------------------------------------------------------
 START     830425     830521     831101     830425    830601
   END     830520     831031     831118     831118    840531

1984->85
           SPRING     SUMMER       FALL        ICE  JUNE 1->
         OVERTURN      STRAT   OVERTURN       FREE    MAY 31
-------------------------------------------------------------
 START     840425     840521     841106     840425    840601
   END     840520     841105     841214     841214    850531

1985->86
           SPRING     SUMMER       FALL        ICE  JUNE 1->
         OVERTURN      STRAT   OVERTURN       FREE    MAY 31
-------------------------------------------------------------
 START     850425     850513     851120     850425    850601
   END     850512     851119     851204     851204    860531
```

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NUNIKANI                                             CALCULATION DATE: 86/06/17
CHLRAC Chlorophyll-A, corrected ug/L

1983->84
      I     SPRING        SUMMER         FALL            ICE      JUNE 1->
      I   OVERTURN         STRAT     OVERTURN           FREE        MAY 31
--------------------------------------------------------------------------
MEAN  I       1.60          1.30                        1.35          1.30
MIN   I       1.60          1.00                        1.00          1.00
MAX   I       1.60          1.90                        1.90          1.90
N     I       1.00          5.00                        6.00          5.00

1984->85
      I     SPRING        SUMMER         FALL            ICE      JUNE 1->
      I   OVERTURN         STRAT     OVERTURN           FREE        MAY 31
--------------------------------------------------------------------------
MEAN  I                     1.28         0.50           1.12         0.917
MIN   I                     1.00         0.50           0.50          -.10
MAX   I                     1.70         0.50           1.70          1.70
N     I                     4.00         1.00           5.00          6.00

1985->86
      I     SPRING        SUMMER         FALL            ICE      JUNE 1->
      I   OVERTURN         STRAT     OVERTURN           FREE        MAY 31
--------------------------------------------------------------------------
MEAN  I       -.10          1.34                        1.10          1.34
MIN   I       -.10          1.00                        -.10          1.00
MAX   I       -.10          1.90                        1.90          1.90
N     I       1.00          5.00                        6.00          5.00

Overall summary of means
      I     SPRING        SUMMER         FALL            ICE      JUNE 1->
      I   OVERTURN         STRAT     OVERTURN           FREE        MAY 31
--------------------------------------------------------------------------
MEAN  I       0.75          1.31         0.50           1.19          1.19
MIN   I       -.10          1.28         0.50           1.10         0.917
MAX   I       1.60          1.34         0.50           1.35          1.34
N     I       2.00          3.00         1.00           3.00          3.00
```

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NUNIKANI                                                   CALCULATION DATE: 86/06/17
CHLRAT  Chlorophyll-A  ug/L

1983->84
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        1.90          1.60                       1.65         1.53
MIN    I        1.90          1.20                       1.20         1.20
MAX    I        1.90          2.10                       2.10         2.10
N      I        1.00          5.00                       6.00         6.00

1984->85
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        1.20          2.13          0.90         1.77         1.70
MIN    I        1.20          1.90          0.90         0.90         0.80
MAX    I        1.20          2.30          0.90         2.30         2.30
N      I        1.00          4.00          1.00         6.00         6.00

1985->86
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        0.80          2.14                       1.92         2.14
MIN    I        0.80          1.60                       0.80         1.60
MAX    I        0.80          3.10                       3.10         3.10
N      I        1.00          5.00                       6.00         5.00

Overall summary of means
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        1.30          1.96          0.90         1.78         1.79
MIN    I        0.80          1.60          0.90         1.65         1.53
MAX    I        1.90          2.14          0.90         1.92         2.14
N      I        3.00          3.00          1.00         3.00         3.00
```

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NUNIKANI                                                   CALCULATION DATE: 86/06 17
FWSDDP  Secchi Disc Depth

1983->84
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        6.00          6.58                       6.48         6.38
MIN    I        6.00          6.00                       6.00         5.40
MAX    I        6.00          7.40                       7.40         7.40
N      I        1.00          5.00                       6.00         6.00

1984->85
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        5.40          7.10          6.00         6.63         6.62
MIN    I        5.40          5.00          6.00         5.00         5.00
MAX    I        5.40          8.50          6.00         8.50         8.50
N      I        1.00          4.00          1.00         6.00         6.00

1985->86
       I      SPRING        SUMMER          FALL          ICE     JUNE 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        5.30          6.02                       5.90         6.02
MIN    I        5.30          5.00                       5.00         5.00
MAX    I        5.30          7.20                       7.20         7.20
N      I        1.00          5.00                       6.00         5.00

Overall summary of means
       I      SPRING        SUMMER          FALL          ICE     JUNF 1->
       I    OVERTURN         STRAT      OVERTURN         FREE       MAY 31
---------------------------------------------------------------------------
MEAN   I        5.57          6.57          6.00         6.34         6.34
MIN    I        5.30          6.02          6.00         5.90         6.02
MAX    I        6.00          7.10          6.00         6.63         6.62
N      I        3.00          3.00          1.00         3.00         3.00
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SHERBORNE
                                                  Calculation date: 86/06/17

1983->84
           SPRING     SUMMER       FALL        ICE  JUNE 1->
         OVERTURN      STRAT   OVERTURN       FREE    MAY 31
------------------------------------------------------------
 START     830425     830521     831101     830425    830601
   END     830520     831031     831118     831118    840531

1984->85
           SPRING     SUMMER       FALL        ICE  JUNE 1->
         OVERTURN      STRAT   OVERTURN       FREE    MAY 31
------------------------------------------------------------
 START     840425     840521     841106     840425    840601
   END     840520     841105     841214     841214    850531

1985->86
           SPRING     SUMMER       FALL        ICE  JUNE 1->
         OVERTURN      STRAT   OVERTURN       FREE    MAY 31
------------------------------------------------------------
 START     850425     850513     851120     850425    850601
   END     850512     851119     851204     851204    860531




SHERBORNE                                         CALCULATION DATE: 86/06/17
CHLRAC  Chlorophyll-A, corrected  ug/L

1983->84
      I      SPRING       SUMMER         FALL           ICE     JUNE 1->
      I    OVERTURN        STRAT     OVERTURN          FREE       MAY 31
------------------------------------------------------------------------
MEAN  I        1.10         1.64         1.20          1.50         1.57
MIN   I        1.10         0.70         1.20          0.70         0.70
MAX   I        1.10         2.30         1.20          2.30         2.30
N     I        1.00         5.00         1.00          7.00         6.00

1984->85
      I      SPRING       SUMMER         FALL           ICE     JUNE 1->
      I    OVERTURN        STRAT     OVERTURN          FREE       MAY 31
------------------------------------------------------------------------
MEAN  I                     1.80         0.80          1.60         1.30
MIN   I                     1.10         0.80          0.80         -.20
MAX   I                     3.40         0.80          3.40         3.40
N     I                     4.00         1.00          5.00         6.00

1985->86
      I      SPRING       SUMMER         FALL           ICE     JUNE 1->
      I    OVERTURN        STRAT     OVERTURN          FREE       MAY 31
------------------------------------------------------------------------
MEAN  I        -.20         2.16                       1.77         2.16
MIN   I        -.20         0.70                       -.20         0.70
MAX   I        -.20         4.80                       4.80         4.80
N     I        1.00         5.00                       6.00         5.00

Overall summary of means
      I      SPRING       SUMMER         FALL           ICE     JUNE 1->
      I    OVERTURN        STRAT     OVERTURN          FREE       MAY 31
------------------------------------------------------------------------
MEAN  I        0.45         1.87         1.00          1.62         1.68
MIN   I        -.20         1.64         0.80          1.50         1.30
MAX   I        1.10         2.16         1.20          1.77         2.16
N     I        2.00         3.00         2.00          3.00         3.00
```

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SHERBORNE                                            CALCULATION DATE: 86/06/17
CHLRAT  Chlorophyll-A  ug/L

1983->84
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       1.30       2.06        1.30         1.84         1.80
MIN    I       1.30       0.90        1.30         0.90         0.90
MAX    I       1.30       3.20        1.30         3.20         3.20
N      I       1.00       5.00        1.00         7.00         7.00

1984->85
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       1.00       2.50        1.40         2.07         2.03
MIN    I       1.00       1.70        1.40         1.00         0.80
MAX    I       1.00       3.70        1.40         3.70         3.70
N      I       1.00       4.00        1.00         6.00         6.00

1985->86
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       0.80       2.48                     2.20         2.48
MIN    I       0.80       1.40                     0.80         1.40
MAX    I       0.80       3.80                     3.80         3.80
N      I       1.00       5.00                     6.00         5.00

Overall summary of means
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       1.03       2.35        1.35         2.04         2.10
MIN    I       0.80       2.06        1.30         1.84         1.80
MAX    I       1.30       2.50        1.40         2.20         2.48
N      I       3.00       3.00        2.00         3.00         3.00
```

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SHERBORNE                                            CALCULATION DATE: 86/06/17
FWSDDP  Secchi Disc Depth

1983->84
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       6.00       6.98        5.50         6.63         6.44
MIN    I       6.00       6.00        5.50         5.50         4.70
MAX    I       6.00       9.00        5.50         9.00         9.00
N      I       1.00       5.00        1.00         7.00         7.00

1984->85
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       4.70       6.93        6.50         6.48         6.53
MIN    I       4.70       5.70        6.50         4.70         5.00
MAX    I       4.70       7.60        6.50         7.60         7.60
N      I       1.00       4.00        1.00         6.00         6.00

1985->86
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       5.00       6.74                     6.45         6.74
MIN    I       5.00       5.00                     5.00         5.00
MAX    I       5.00       9.00                     9.00         9.00
N      I       1.00       5.00                     6.00         5.00

Overall summary of means
       I    SPRING      SUMMER        FALL          ICE     JUNE 1->
       I  OVERTURN       STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN   I       5.23       6.88        6.00         6.52         6.57
MIN    I       4.70       6.74        5.50         6.45         6.44
MAX    I       6.00       6.98        6.50         6.63         6.74
N      I       3.00       3.00        2.00         3.00         3.00
```

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SMOKE
                                                       Calculation date: 86/06/17

1983->84
          SPRING     SUMMER       FALL        ICE   JUNE 1->
        OVERTURN      STRAT   OVERTURN       FREE     MAY 31
-------------------------------------------------------------
 START    830425     830521     831101     830425     830601
   END    830520     831031     831118     831118     840531

1984->85
          SPRING     SUMMER       FALL        ICE   JUNE 1->
        OVERTURN      STRAT   OVERTURN       FREE     MAY 31
-------------------------------------------------------------
 START    840425     840521     841106     840425     840601
   END    840520     841105     841214     841214     850531

1985->86
          SPRING     SUMMER       FALL        ICE   JUNE 1->
        OVERTURN      STRAT   OVERTURN       FREE     MAY 31
-------------------------------------------------------------
 START    850425     850513     851120     850425     850601
   END    850512     851119     851204     851204     860531
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SMOKE                                                CALCULATION DATE: 86/06/17
CHLRAC  Chlorophyll-A, corrected  ug/L

1983->84
       I    SPRING        SUMMER          FALL           ICE      JUNE 1->
       I  OVERTURN         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------
MEAN   I       2.30         2.20                        2.22          2.20
MIN    I       2.30         1.60                        1.60          1.60
MAX    I       2.30         3.20                        3.20          3.20
N      I       1.00         5.00                        6.00          5.00

1984->85
       I    SPRING        SUMMER          FALL           ICE      JUNE 1->
       I  OVERTURN         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------
MEAN   I                    1.88          1.90          1.88          1.55
MIN    I                    1.50          1.90          1.50          -.10
MAX    I                    2.20          1.90          2.20          2.20
N      I                    4.00          1.00          5.00          6.00

1985->86
       I    SPRING        SUMMER          FALL           ICE      JUNE 1->
       I  OVERTURN         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------
MEAN   I       -.10         2.62                        2.17          2.62
MIN    I       -.10         1.80                        -.10          1.80
MAX    I       -.10         3.10                        3.10          3.10
N      I       1.00         5.00                        6.00          5.00

Overall summary of means
       I    SPRING        SUMMER          FALL           ICE      JUNE 1->
       I  OVERTURN         STRAT      OVERTURN          FREE        MAY 31
--------------------------------------------------------------------------
MEAN   I       1.10         2.23          1.90          2.09          2.12
MIN    I       -.10         1.88          1.90          1.88          1.55
MAX    I       2.30         2.62          1.90          2.22          2.62
N      I       2.00         3.00          1.00          3.00          3.00
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SMOKE                                            CALCULATION DATE: 86/06/17
CHLRAT  Chlorophyll-A  ug/L

1983->84
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        2.60        2.46                     2.48        2.48
MIN   I        2.60        1.80                     1.80        1.80
MAX   I        2.60        3.50                     3.50        3.50
N     I        1.00        5.00                     6.00        6.00

1984->85
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        2.60        2.58        2.70         2.60        2.35
MIN   I        2.60        2.30        2.70         2.30        1.10
MAX   I        2.60        3.00        2.70         3.00        3.00
N     I        1.00        4.00        1.00         6.00        6.00

1985->86
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        1.10        3.36                     2.98        3.36
MIN   I        1.10        2.60                     1.10        2.60
MAX   I        1.10        3.90                     3.90        3.90
N     I        1.00        5.00                     6.00        5.00

Overall summary of means
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        2.10        2.80        2.70         2.69        2.73
MIN   I        1.10        2.46        2.70         2.48        2.35
MAX   I        2.60        3.36        2.70         2.98        3.36
N     I        3.00        3.00        1.00         3.00        3.00
```

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SMOKE                                            CALCULATION DATE: 86/06/17
FWSDDP  Secchi Disc Depth

1983->84
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        5.00        4.98                     4.98        4.97
MIN   I        5.00        3.90                     3.90        3.90
MAX   I        5.00        5.80                     5.80        5.80
N     I        1.00        5.00                     6.00        6.00

1984->85
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        4.90        5.38        5.00         5.26        5.41
MIN   I        4.90        4.50        5.00         4.50        4.50
MAX   I        4.90        6.20        5.00         6.20        6.20
N     I        1.00        5.00        1.00         7.00        7.00

1985->86
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        6.00        4.64                     4.87        4.64
MIN   I        6.00        4.50                     4.50        4.50
MAX   I        6.00        4.90                     6.00        4.90
N     I        1.00        5.00                     6.00        5.00

Overall summary of means
      I      SPRING      SUMMER        FALL          ICE    JUNE 1->
      I   OVERTURN       STRAT   OVERTURN          FREE      MAY 31
-------------------------------------------------------------------------
MEAN  I        5.30        5.00        5.00         5.04        5.01
MIN   I        4.90        4.64        5.00         4.87        4.64
MAX   I        6.00        5.38        5.00         5.26        5.41
N     I        3.00        3.00        1.00         3.00        3.00
```

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TIMBERWOLF
                                                    Calculation date: 86/06/17

1983->84
          SPRING     SUMMER      FALL        ICE  JUNE 1->
        OVERTURN      STRAT  OVERTURN       FREE    MAY 31
----------------------------------------------------------
 START    830425     830521    831101     830425    830601
   END    830520     831031    831118     831118    840531

1984->85
          SPRING     SUMMER      FALL        ICE  JUNE 1->
        OVERTURN      STRAT  OVERTURN       FREE    MAY 31
----------------------------------------------------------
 START    840425     840521    841106     840425    840601
   END    840520     841105    841214     841214    850531

1985->86
          SPRING     SUMMER      FALL        ICE  JUNE 1->
        OVERTURN      STRAT  OVERTURN       FREE    MAY 31
----------------------------------------------------------
 START    850425     850513    851120     850425    850601
   END    850512     851119    851204     851204    860531
```

```
TIMBERWOLF                                       CALCULATION DATE: 86/06 17
CHLAAC  Chlorophyll-A, corrected  ug/L

1983->84
      I    SPRING       SUMMER        FALL          ICE     JUNE 1->
      I  OVERTURN        STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN  I      1.60         3.80                     3.36         3.80
MIN   I      1.60         2.90                     1.60         2.90
MAX   I      1.60         4.60                     4.60         4.60
N     I      1.00         4.00                     5.00         4.00

1984->85
      I    SPRING       SUMMER        FALL          ICE     JUNE 1->
      I  OVERTURN        STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN  I                   2.05        0.50         1.74         1.43
MIN   I                   -.30        0.50         -.30         -.30
MAX   I                   3.70        0.50         3.70         3.70
N     I                   4.00        1.00         5.00         6.00

1985->86
      I    SPRING       SUMMER        FALL          ICE     JUNE 1->
      I  OVERTURN        STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN  I      -.10         3.60                     2.98         3.60
MIN   I      -.10         1.60                     -.10         1.60
MAX   I      -.10         5.40                     5.40         5.40
N     I      1.00         5.00                     6.00         5.00

Overall summary of means
      I    SPRING       SUMMER        FALL          ICE     JUNE 1->
      I  OVERTURN        STRAT    OVERTURN         FREE       MAY 31
--------------------------------------------------------------------
MEAN  I      0.75         3.15        0.50         2.69         2.94
MIN   I      -.10         2.05        0.50         1.74         1.43
MAX   I      1.60         3.80        0.50         3.36         3.80
N     I      2.00         3.00        1.00         3.00         3.00
```

TIMBERWOLF CALCULATION DATE: 86/06/17
CHLRAT Chlorophyll-A ug/L

1983->84

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	2.00	4.25		3.80	3.68
MIN	I	2.00	3.20		2.00	1.40
MAX	I	2.00	5.10		5.10	5.10
N	I	1.00	4.00		5.00	5.00

1984->85

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.40	3.55	1.20	2.80	2.68
MIN	I	1.40	0.30	1.20	0.30	0.30
MAX	I	1.40	6.40	1.20	6.40	6.40
N	I	1.00	4.00	1.00	6.00	6.00

1985->86

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	0.70	4.66		4.00	4.66
MIN	I	0.70	2.20		0.70	2.20
MAX	I	0.70	6.30		6.30	6.30
N	I	1.00	5.00		6.00	5.00

Overall summary of means

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	1.37	4.15	1.20	3.53	3.67
MIN	I	0.70	3.55	1.20	2.80	2.68
MAX	I	2.00	4.66	1.20	4.00	4.66
N	I	3.00	3.00	1.00	3.00	3.00

TIMBERWOLF CALCULATION DATE: 86/06/17
FWSDDP Secchi Disc Depth

1983->84

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.00	4.24		4.03	4.10
MIN	I	3.00	3.70		3.00	3.40
MAX	I	3.00	5.20		5.20	5.20
N	I	1.00	5.00		6.00	6.00

1984->85

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.40	3.44	3.80	3.49	3.54
MIN	I	3.40	2.80	3.80	2.80	2.80
MAX	I	3.40	4.00	3.80	4.00	4.00
N	I	1.00	5.00	1.00	7.00	7.00

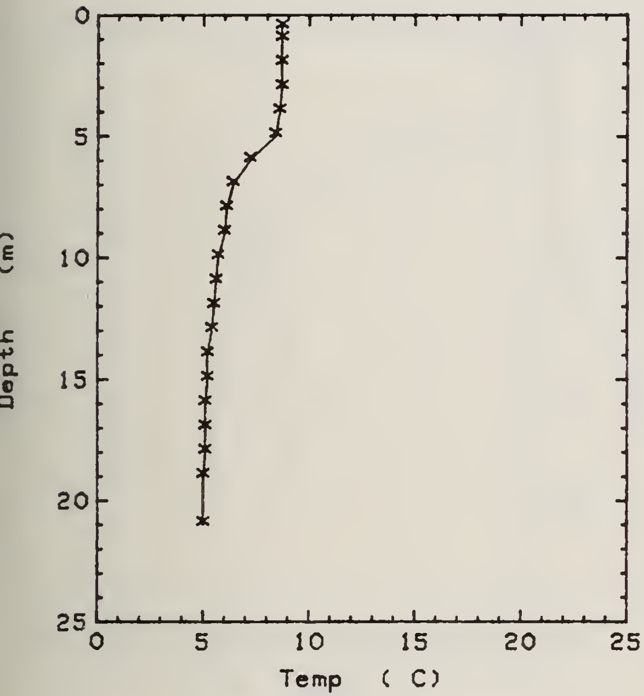
1985->86

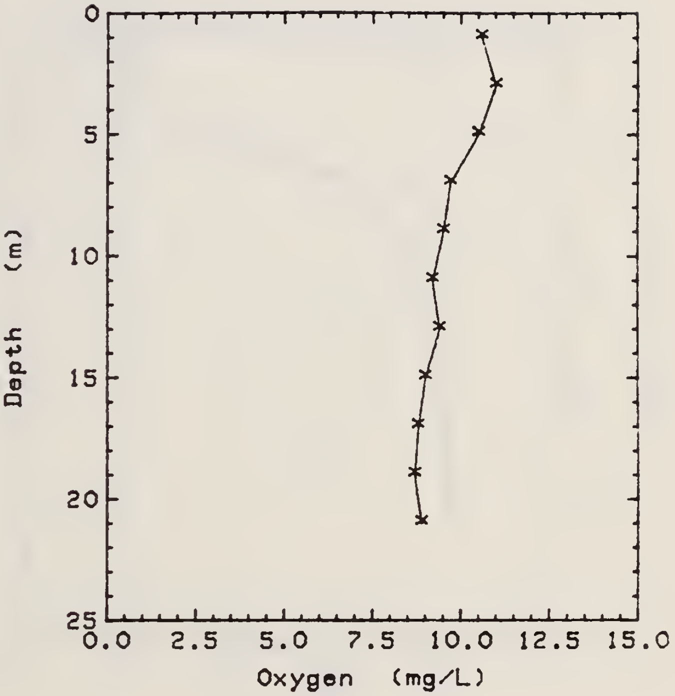
	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.80	2.98		3.12	2.98
MIN	I	3.80	2.50		2.50	2.50
MAX	I	3.80	4.00		4.00	4.00
N	I	1.00	5.00		6.00	5.00

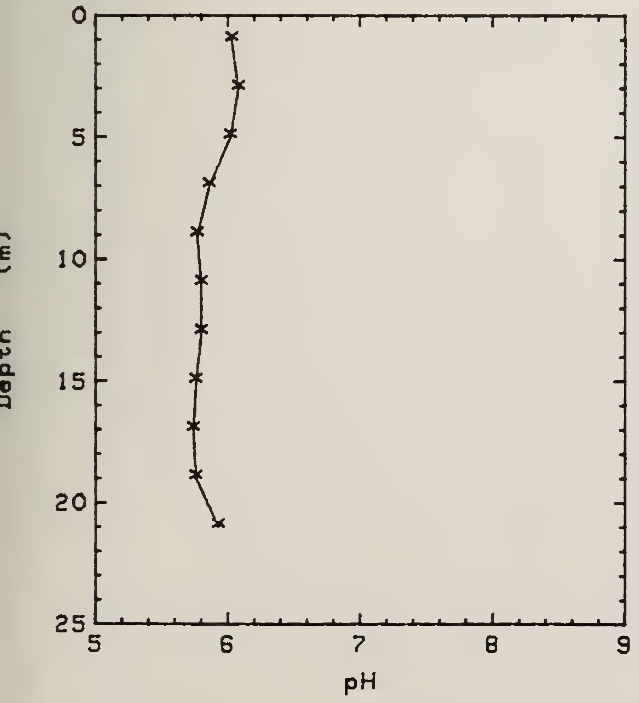
Overall summary of means

	I	SPRING OVERTURN	SUMMER STRAT	FALL OVERTURN	ICE FREE	JUNE 1-> MAY 31
MEAN	I	3.40	3.55	3.80	3.55	3.54
MIN	I	3.00	2.98	3.80	3.12	2.98
MAX	I	3.80	4.24	3.80	4.03	4.10
N	I	3.00	3.00	1.00	3.00	3.00

BONNECHERE 84.05.16







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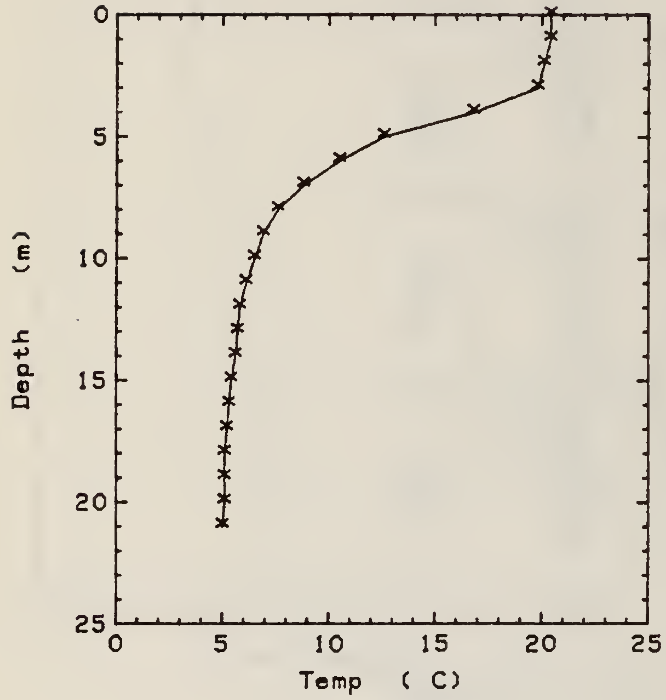

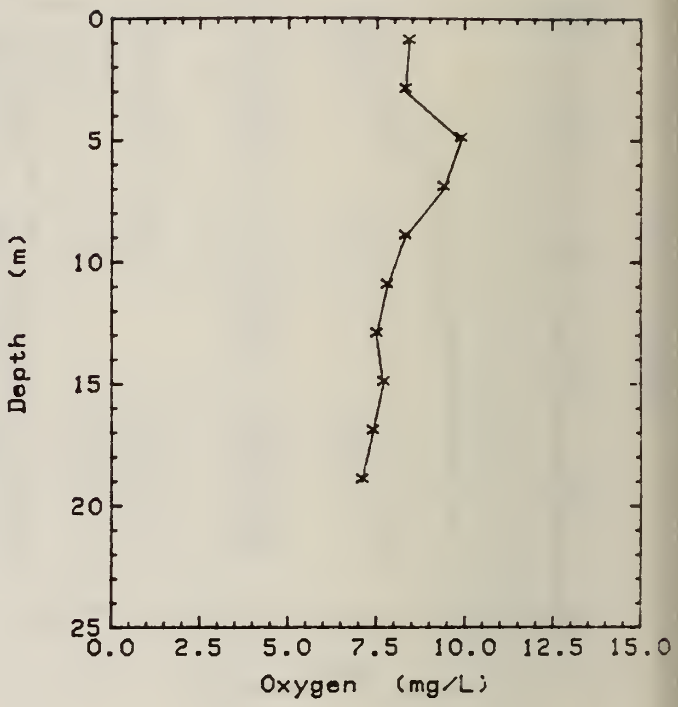

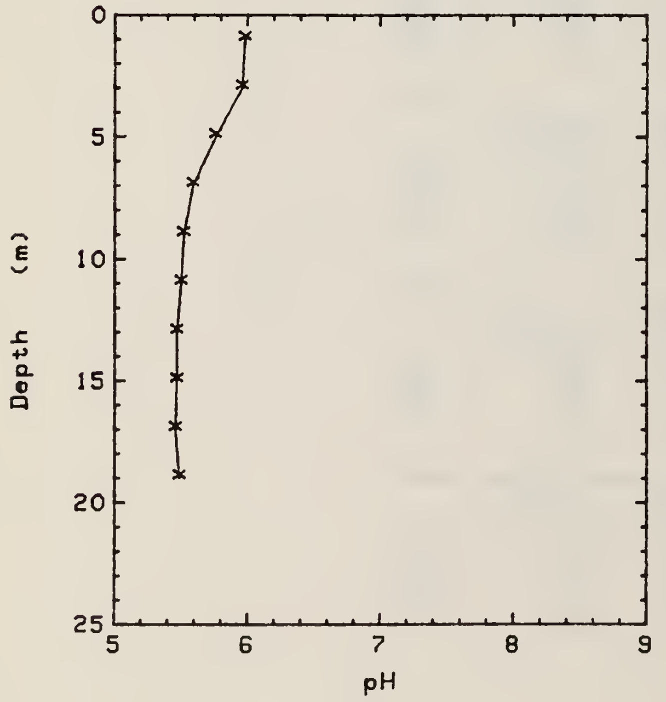

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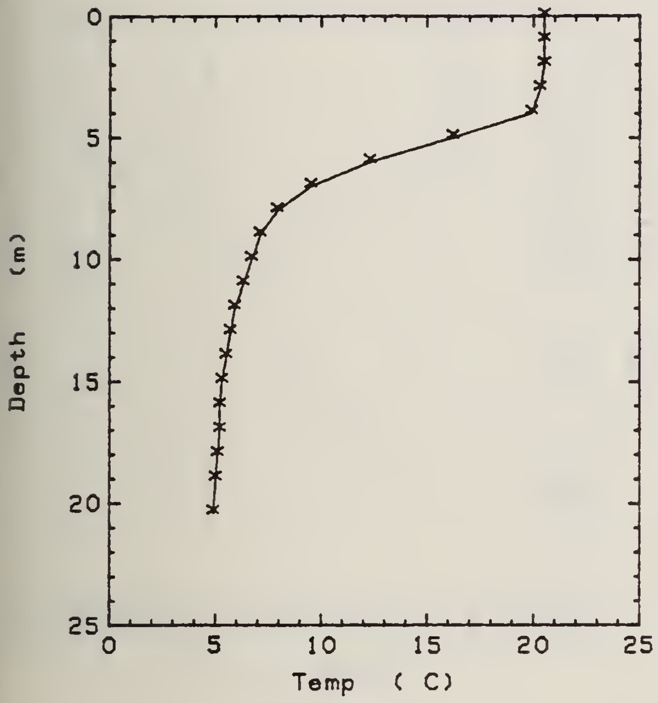

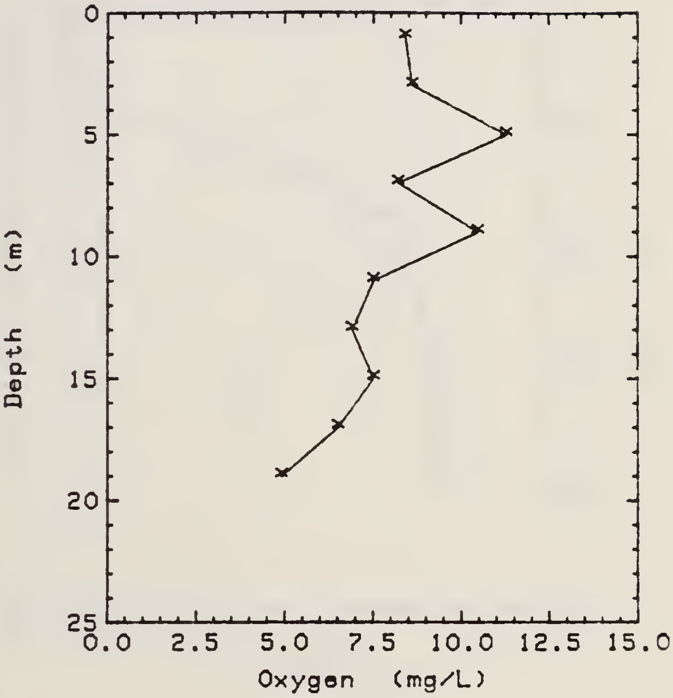

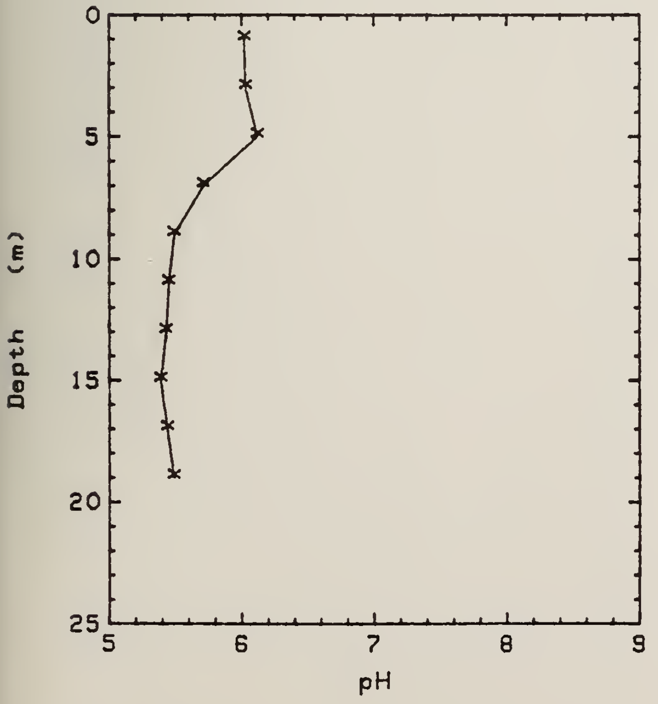

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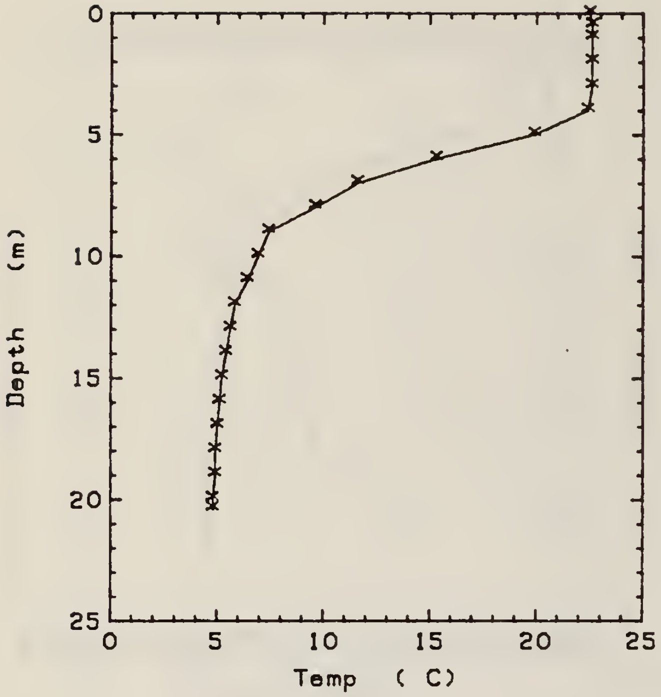

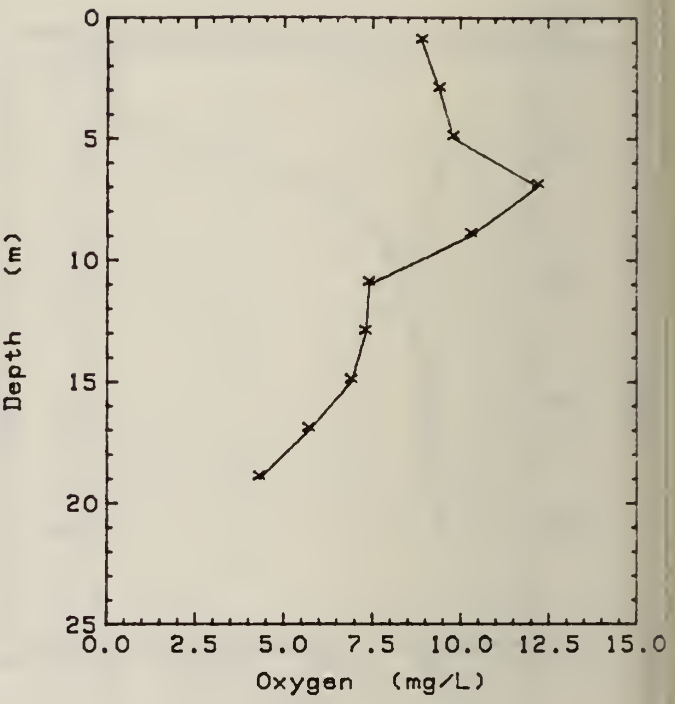

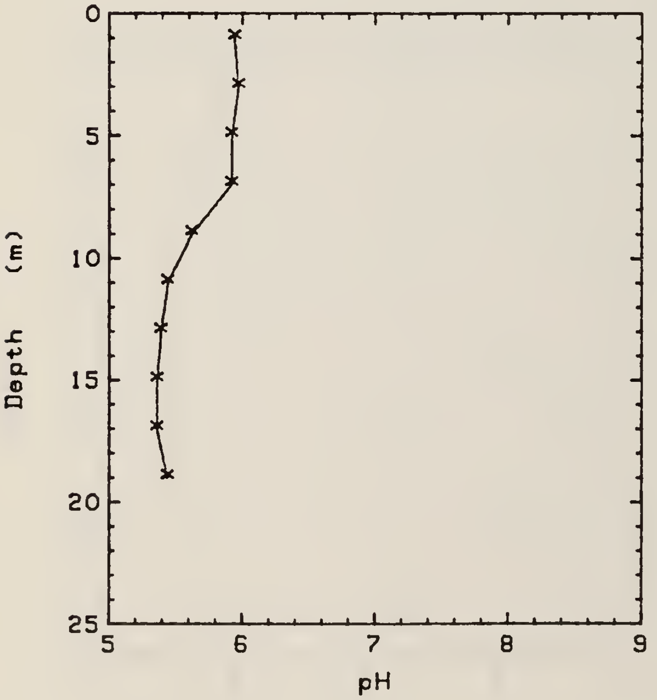

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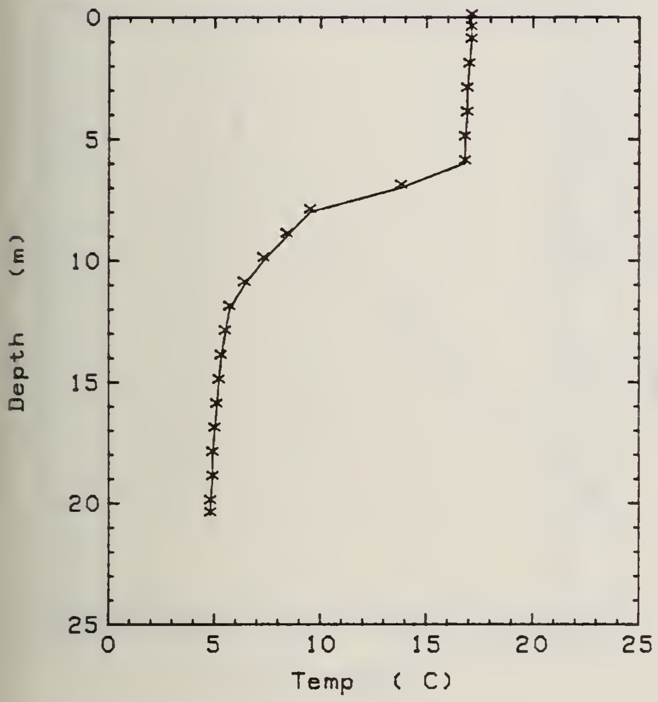

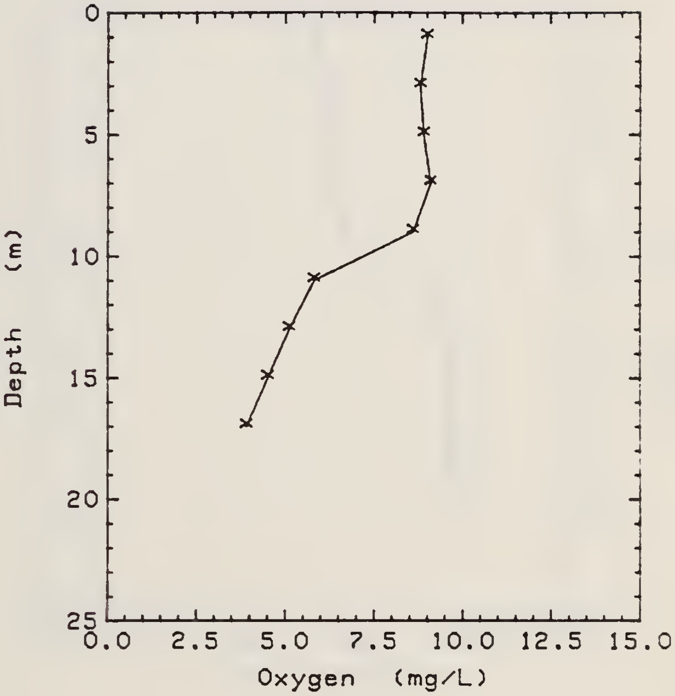

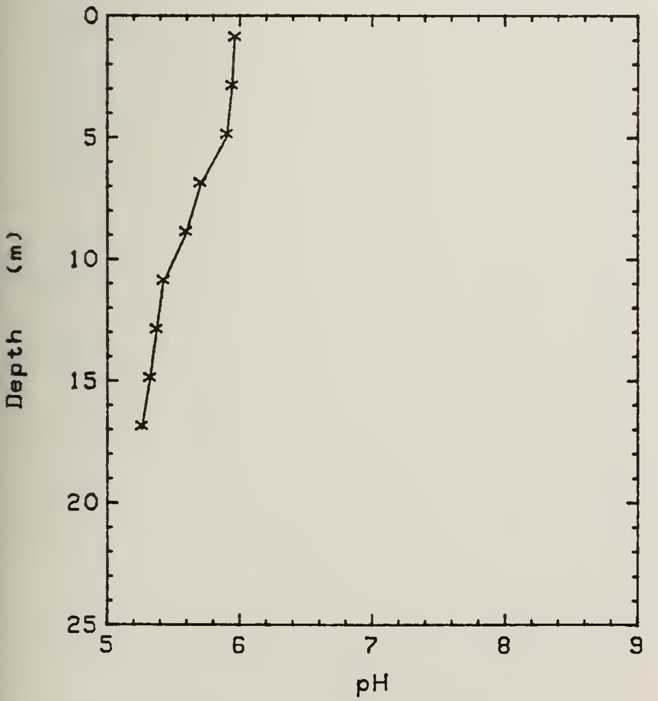

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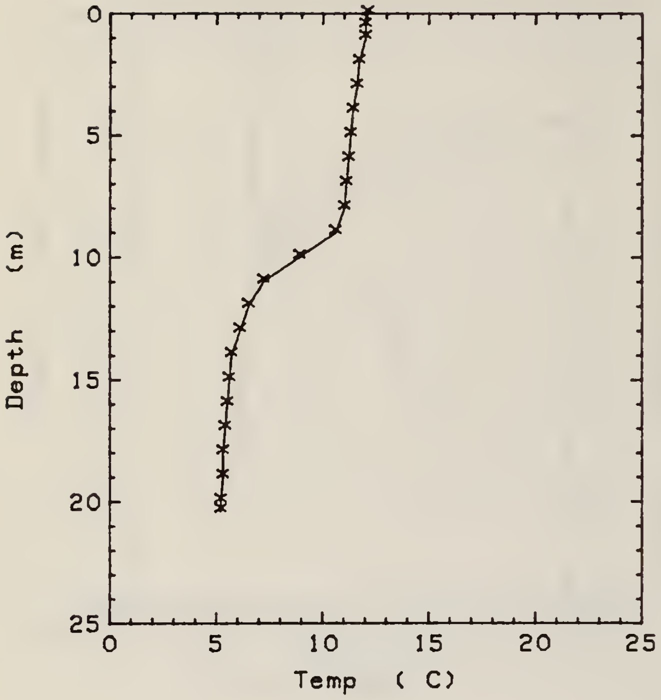
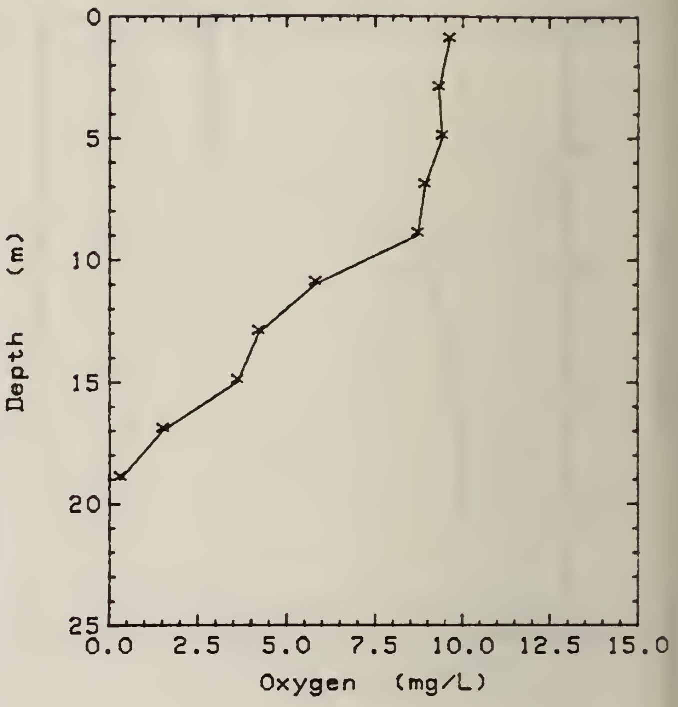
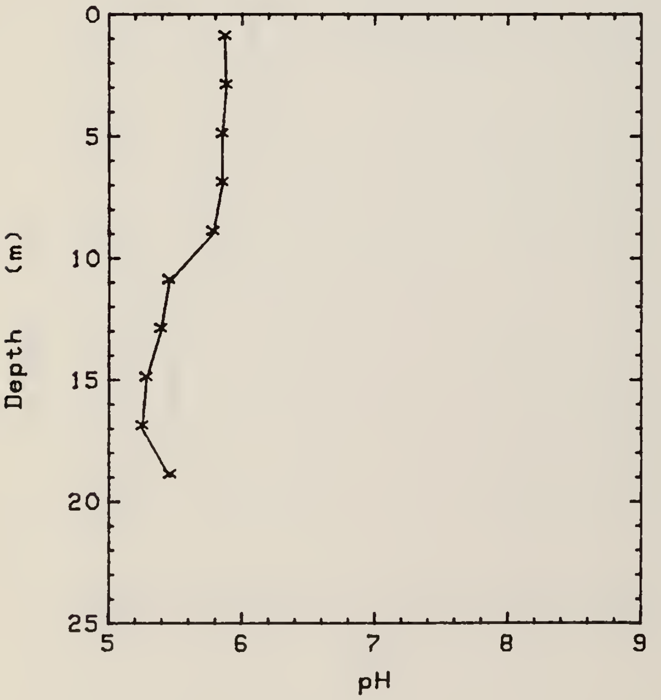
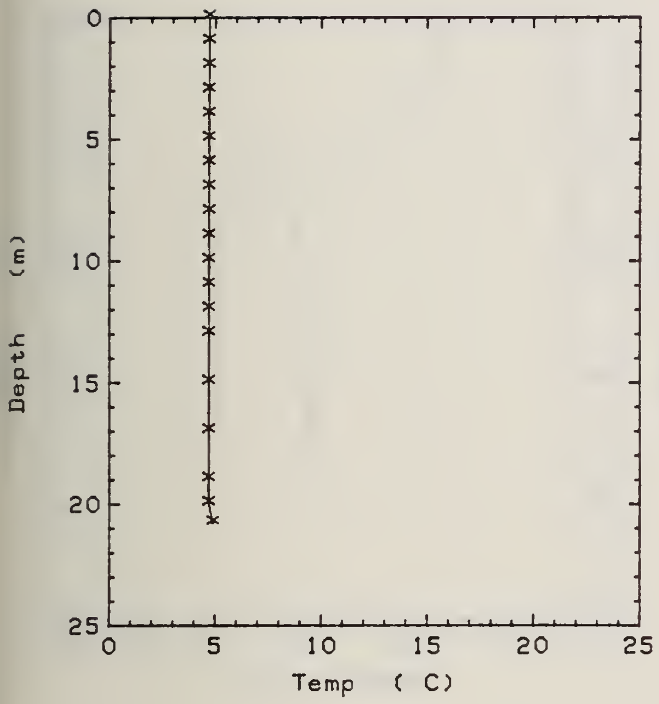
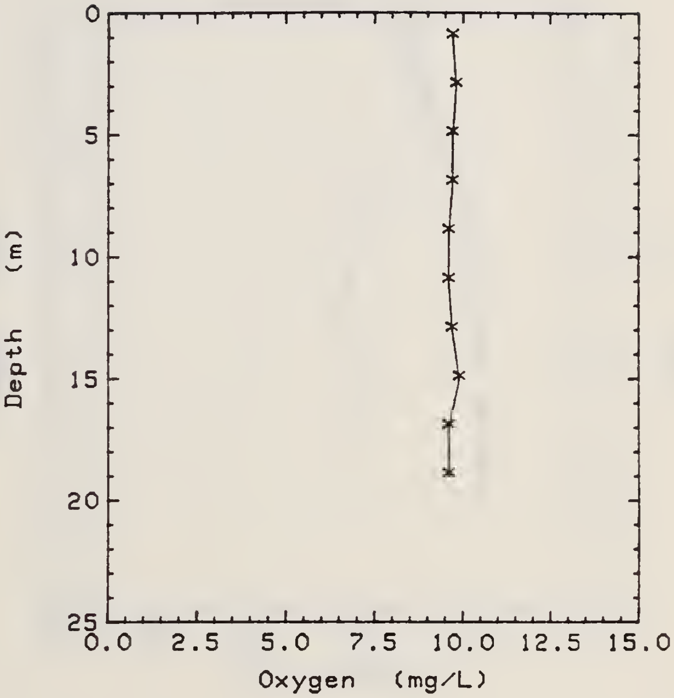


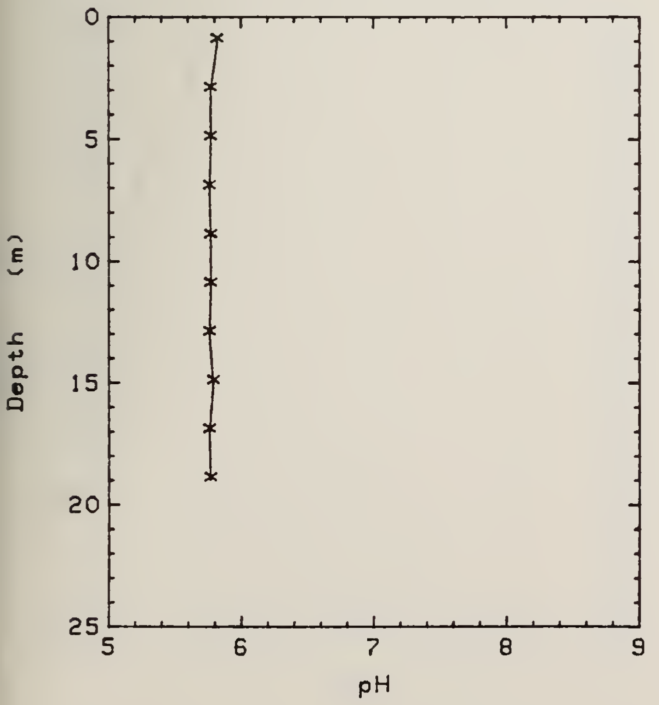




BONNECHERE 84.11.14







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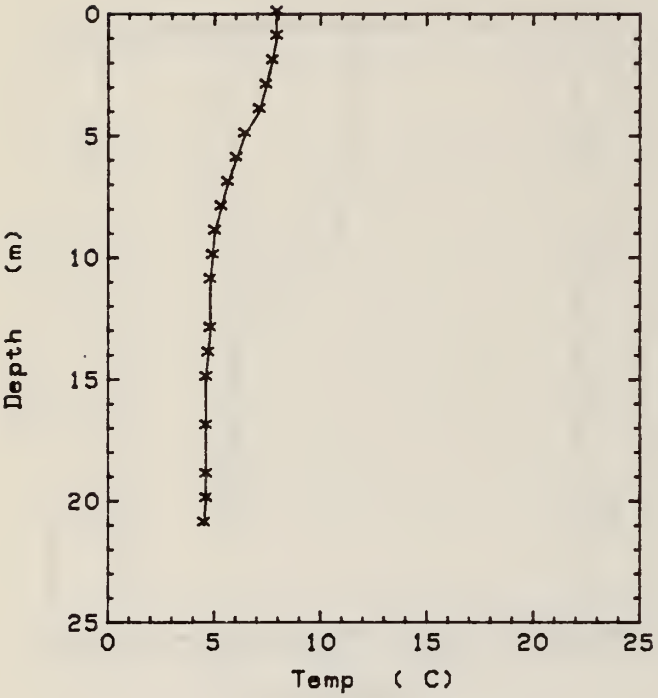

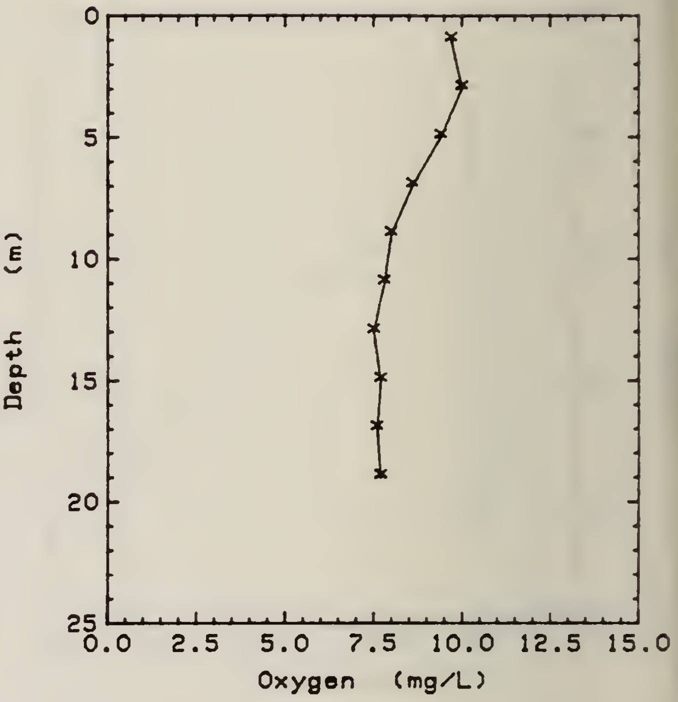

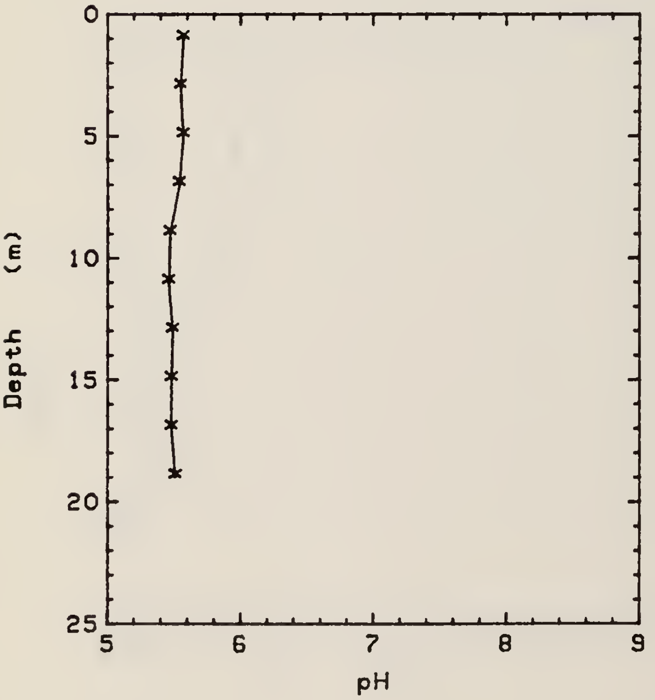

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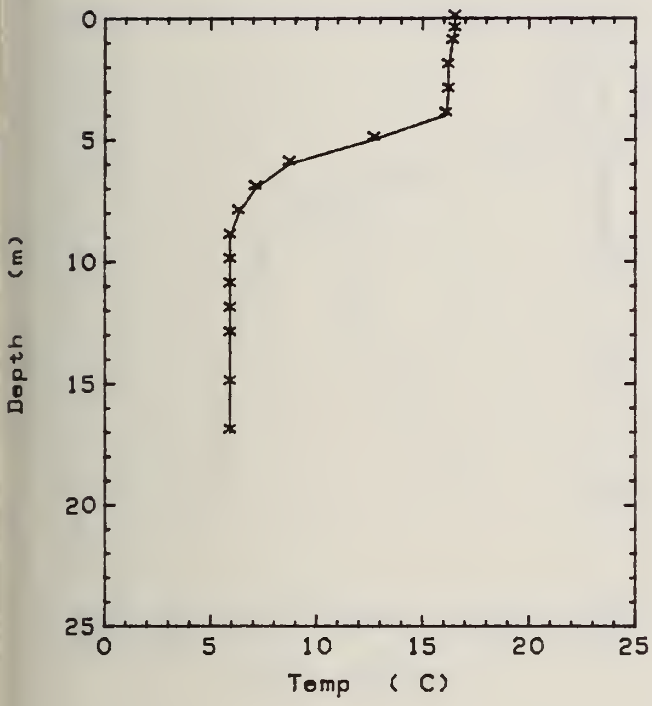

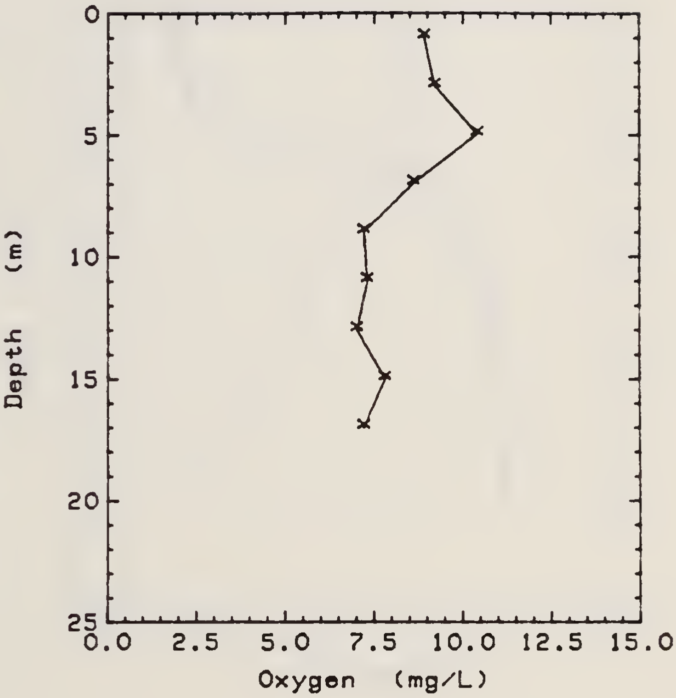

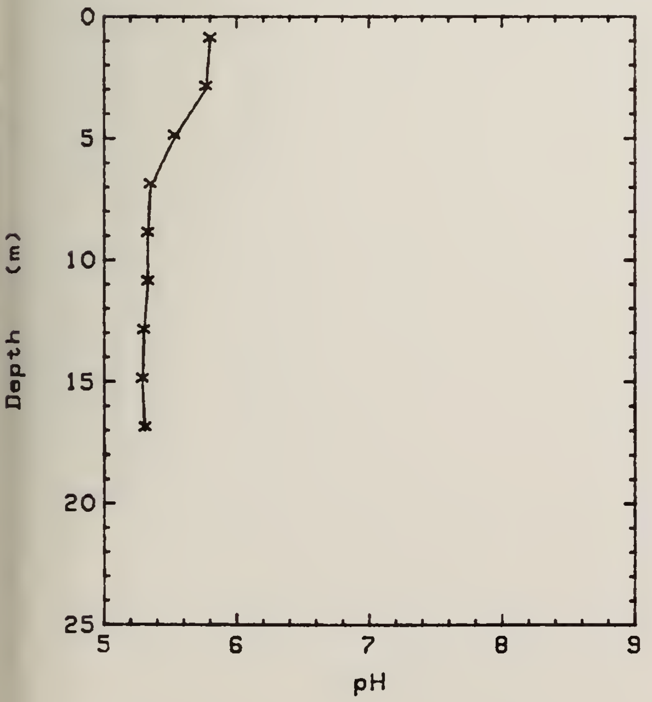

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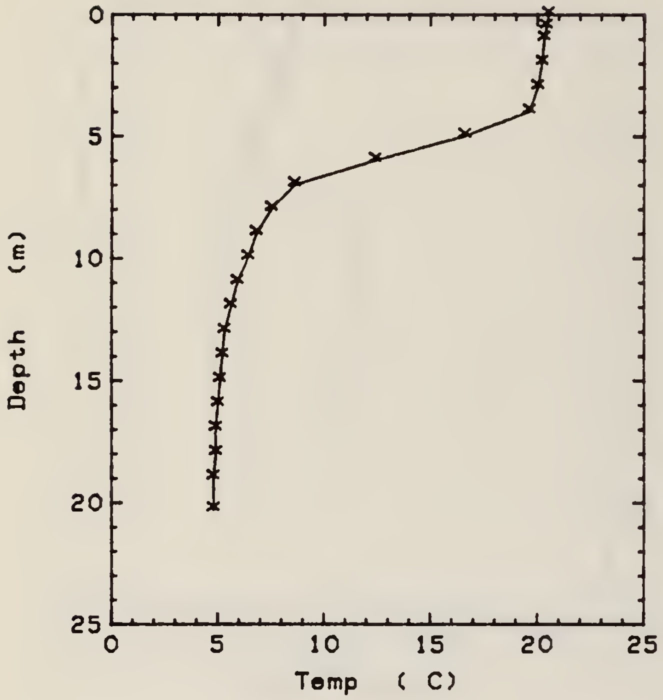

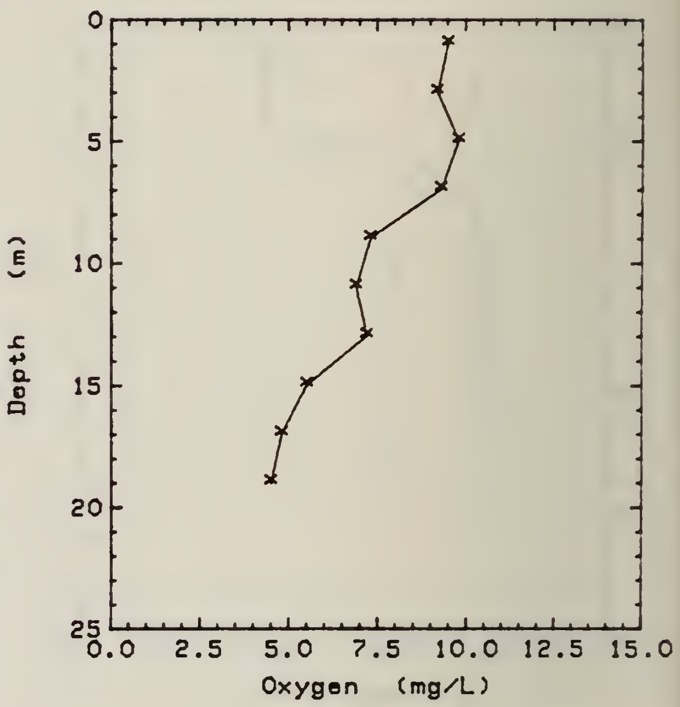

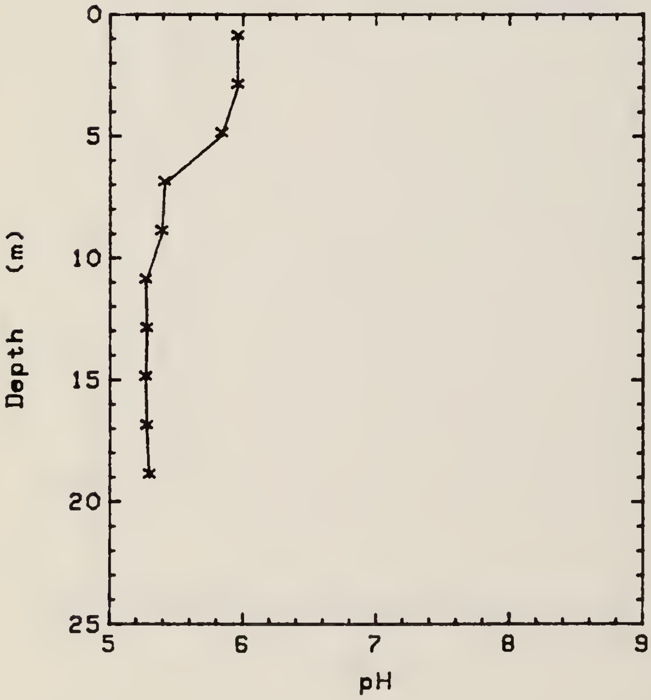

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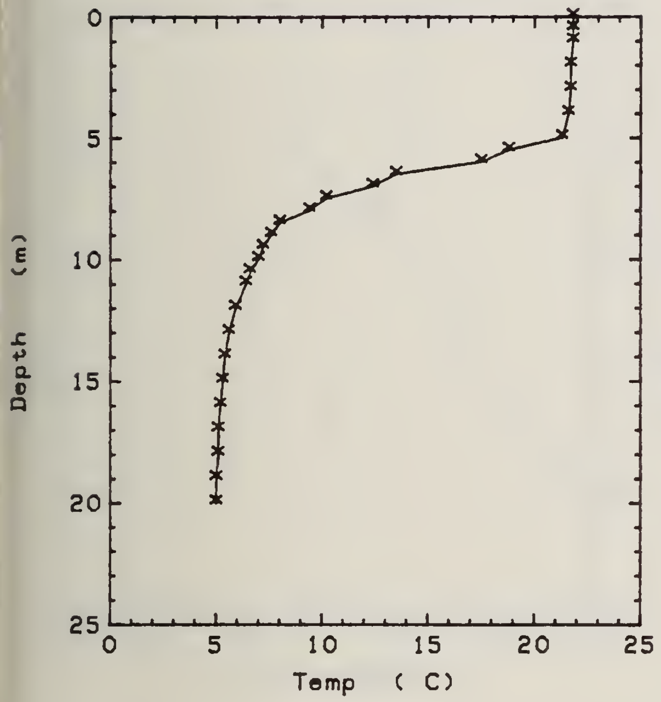

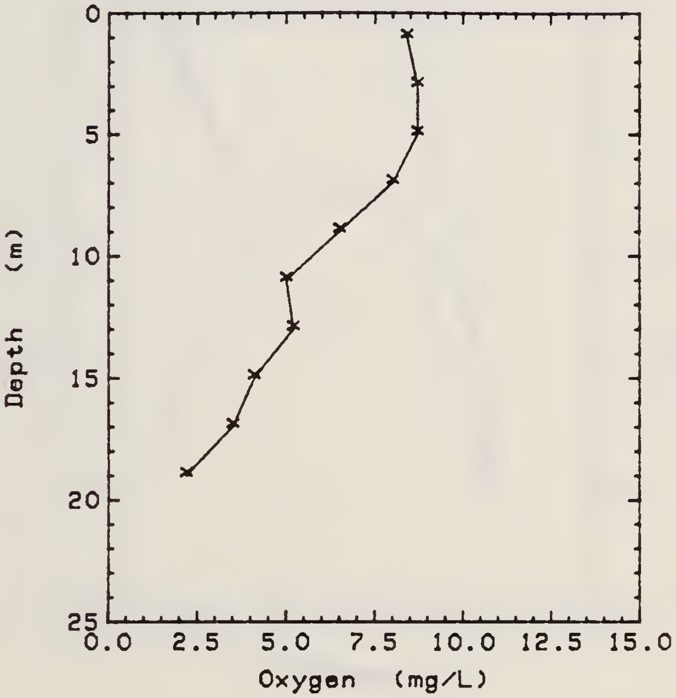

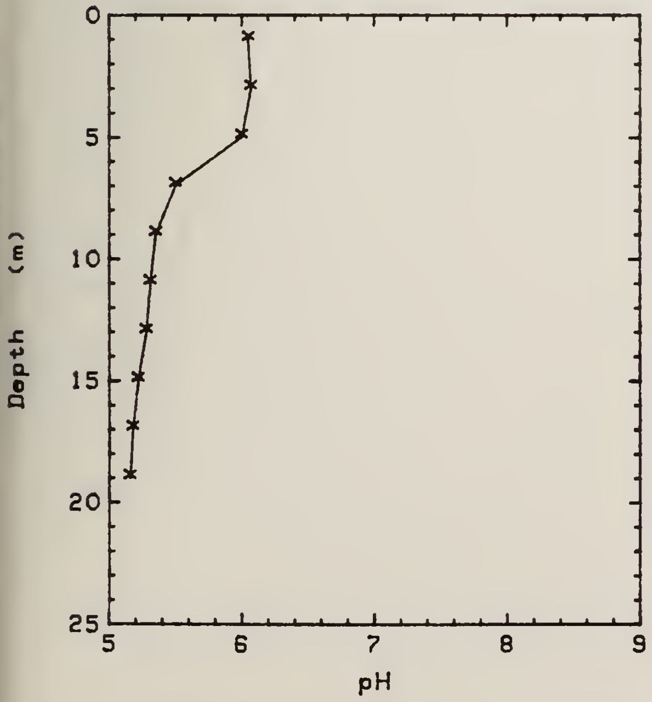

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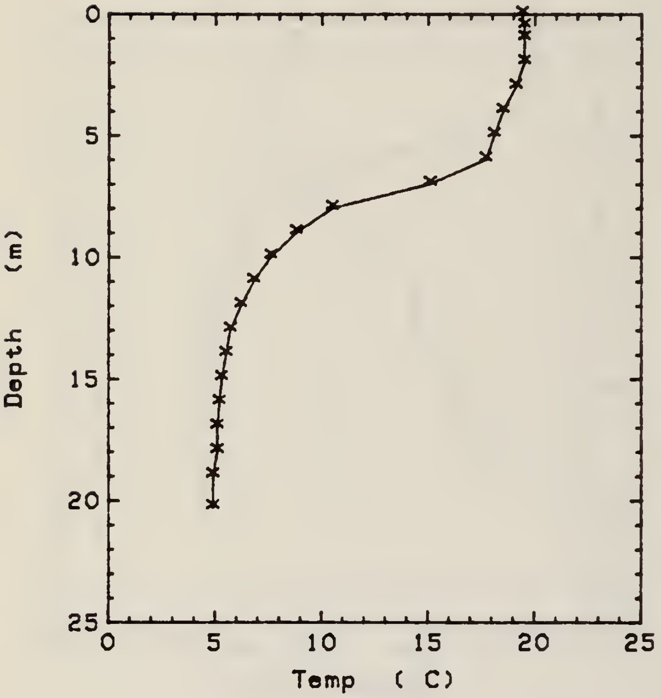

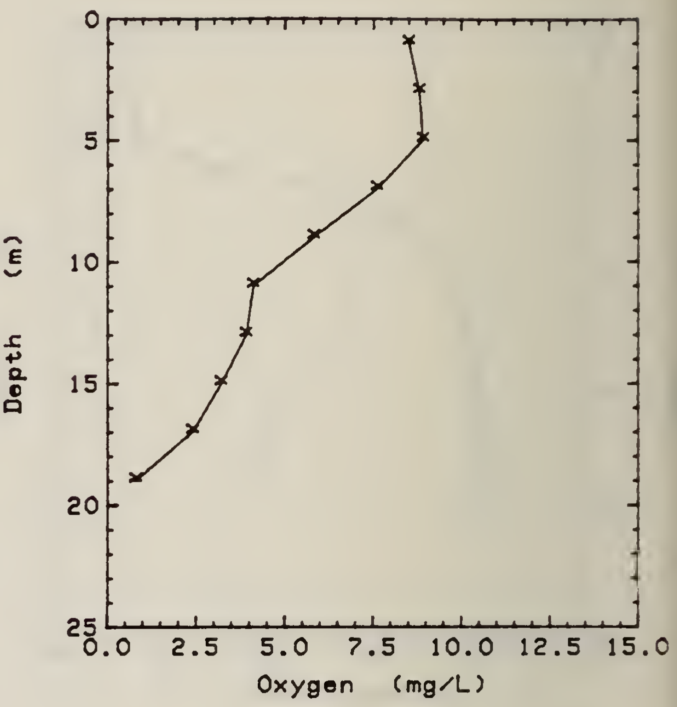

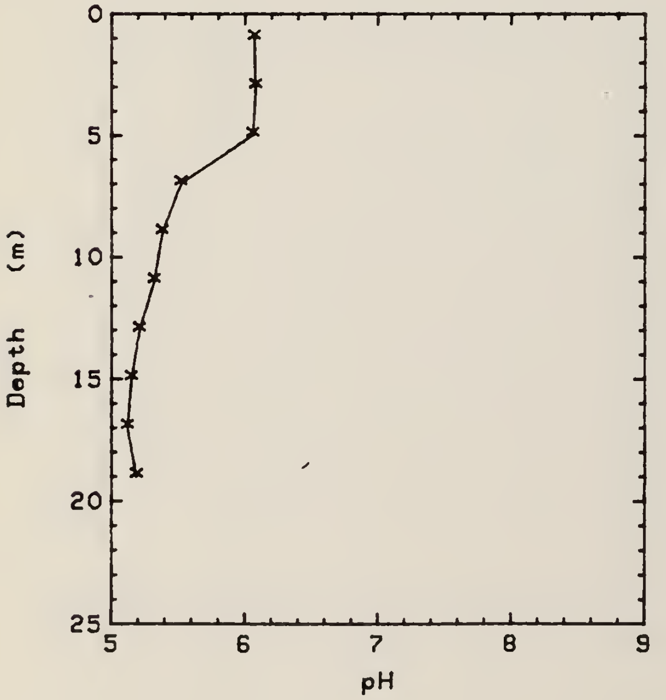

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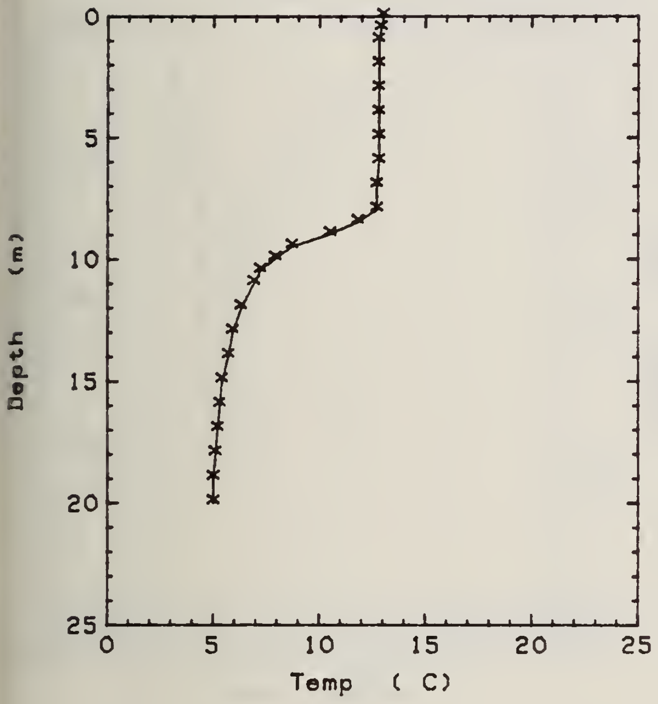
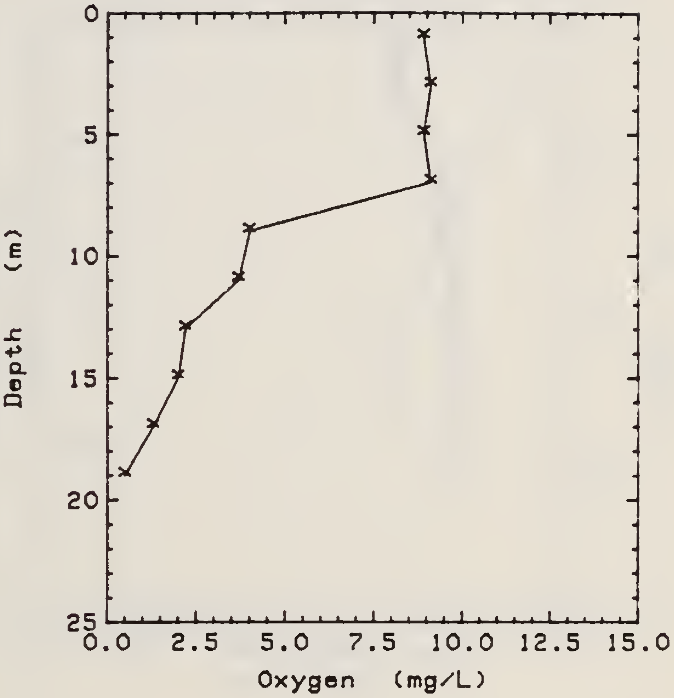
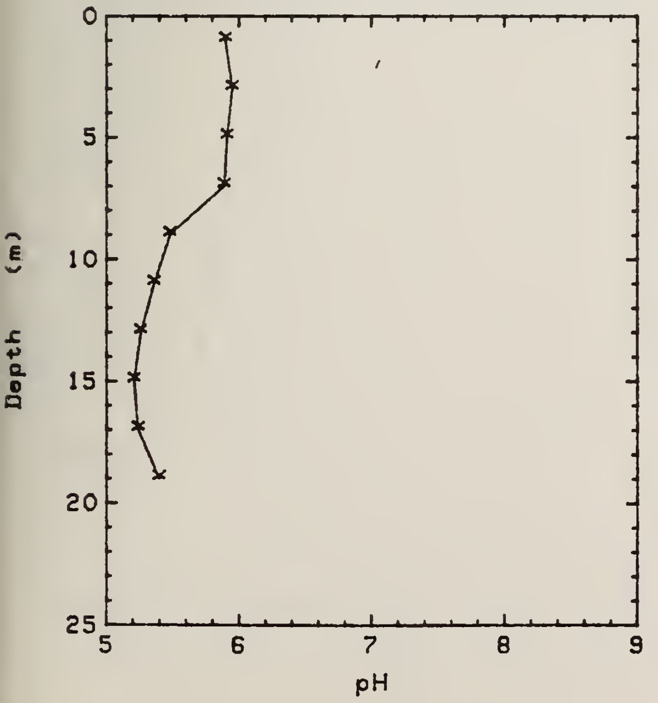
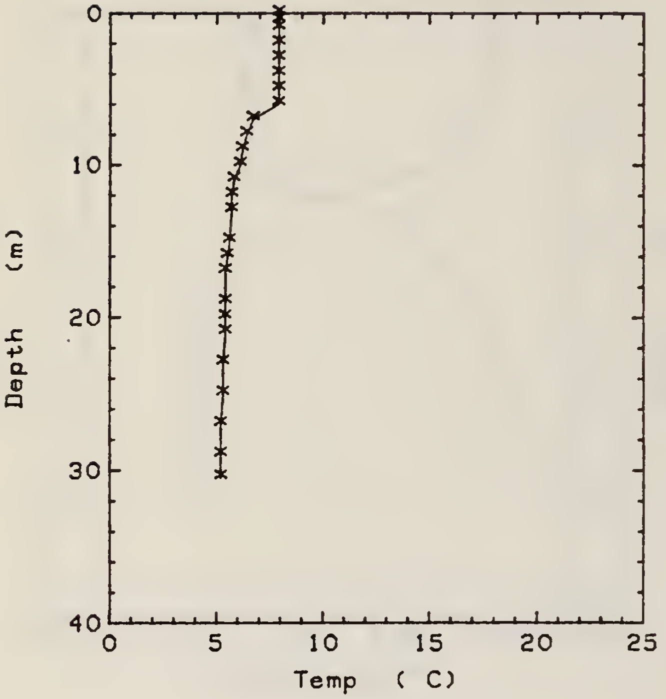
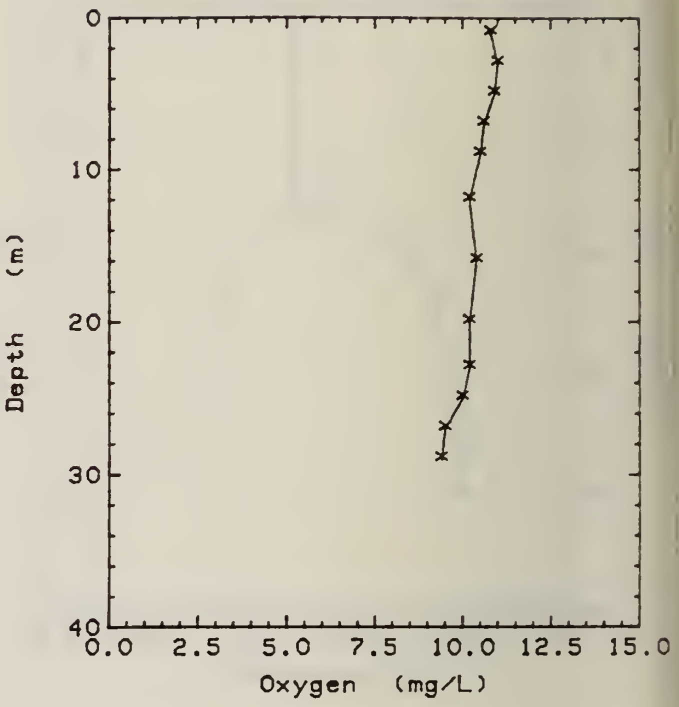


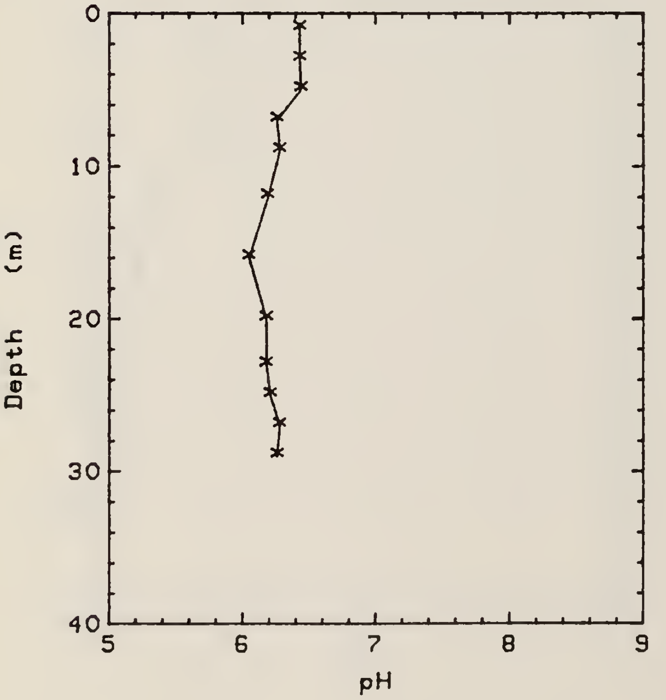




BIG PORCUPINE 84.05.15







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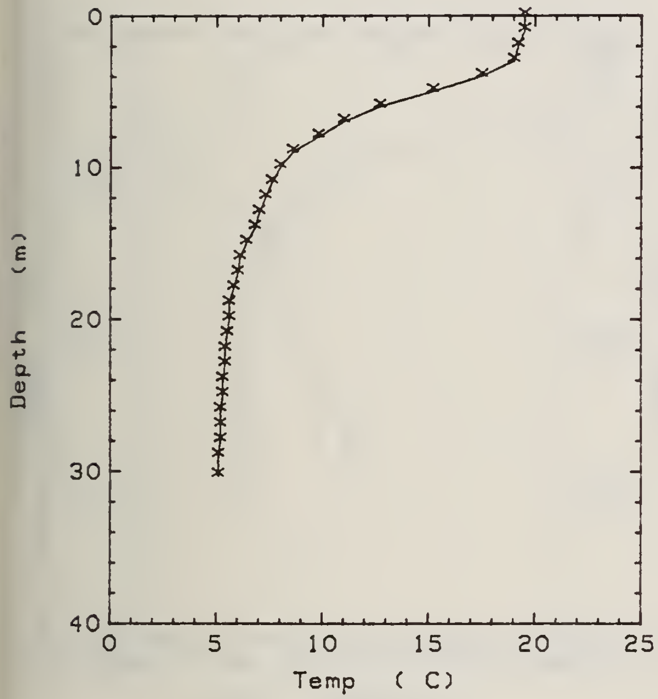

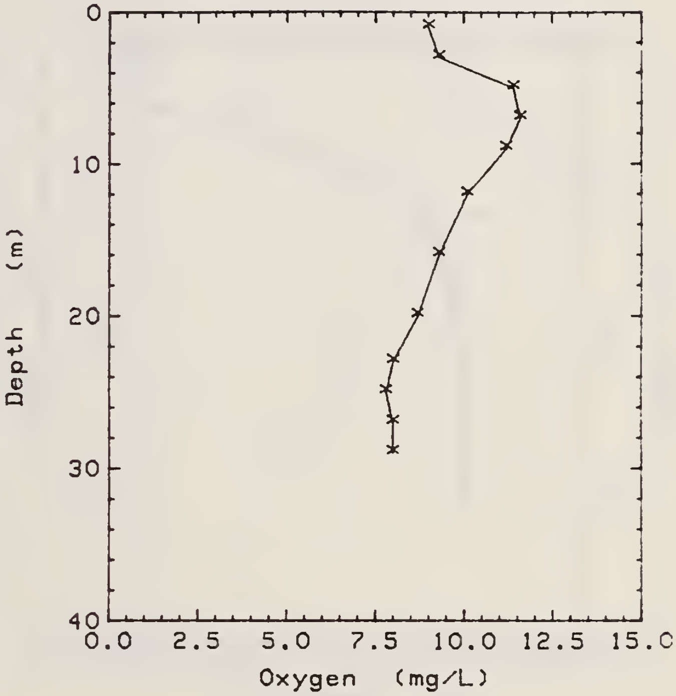

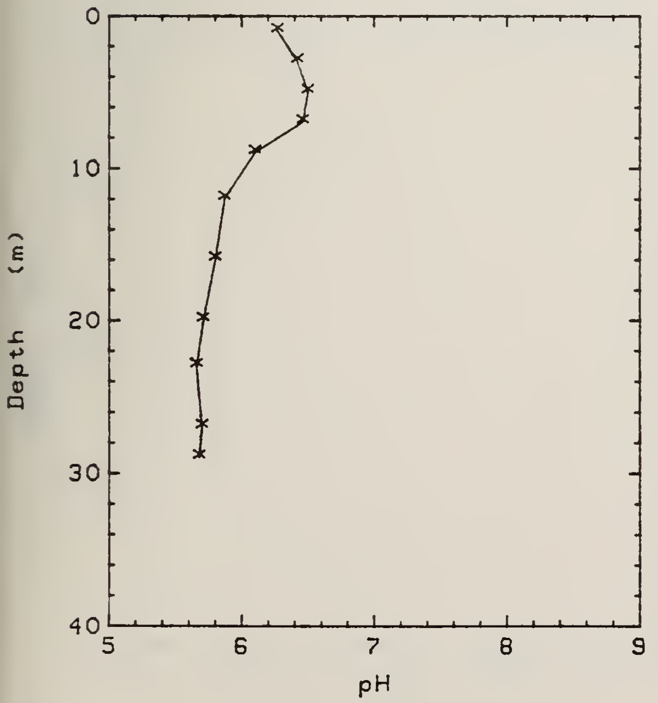

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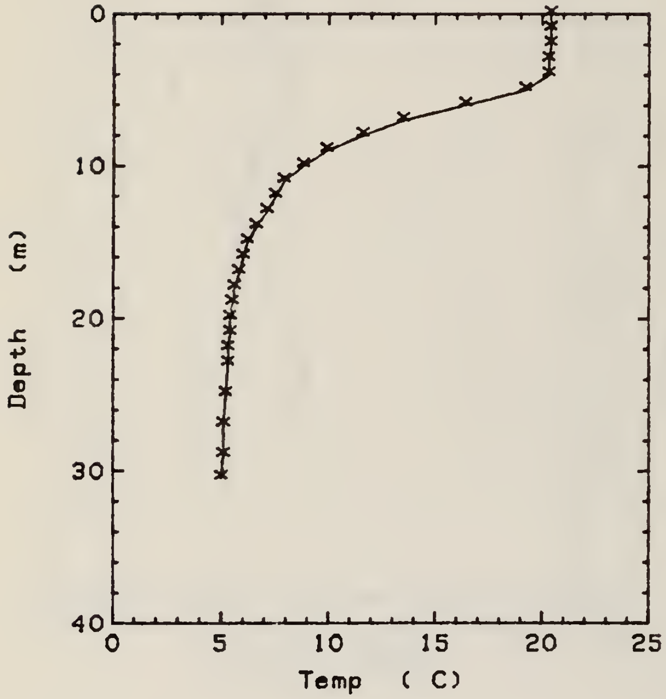

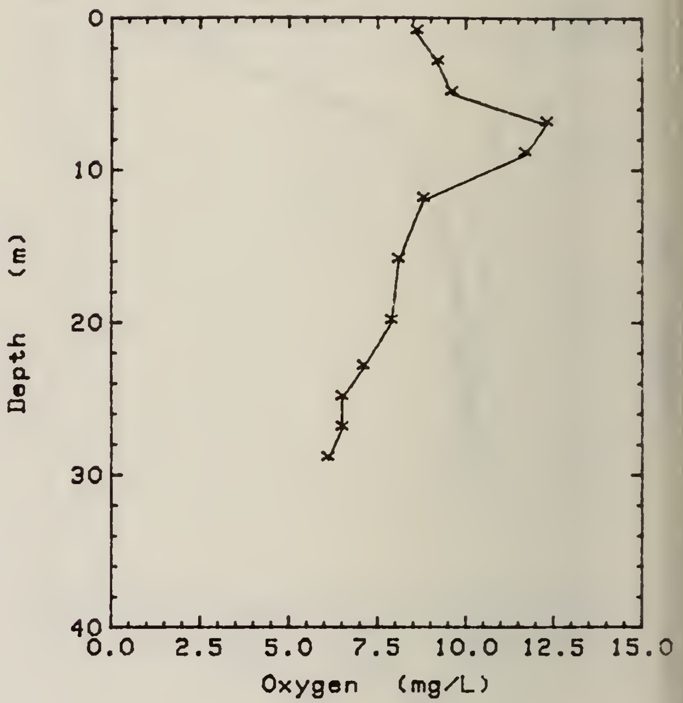

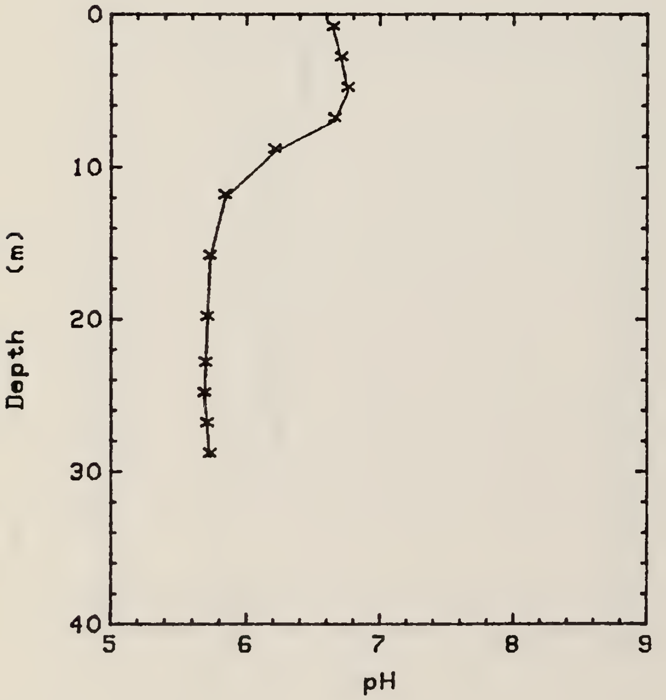

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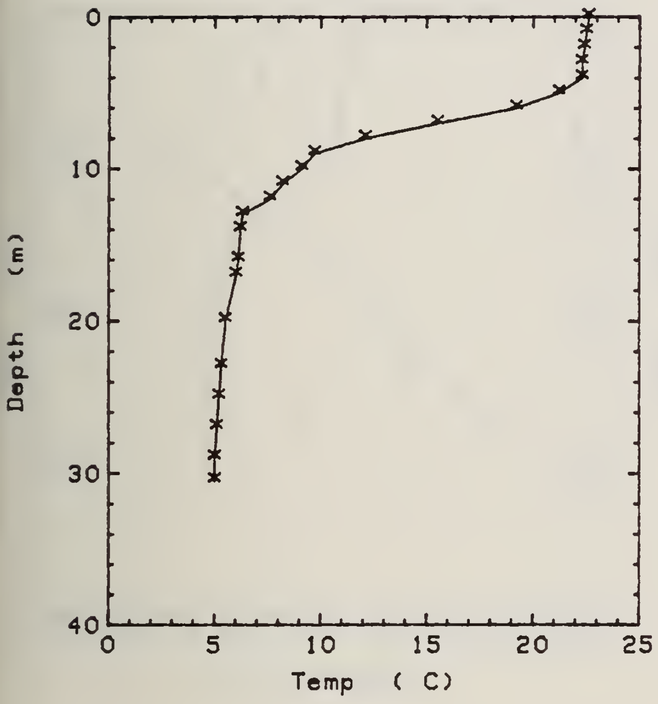

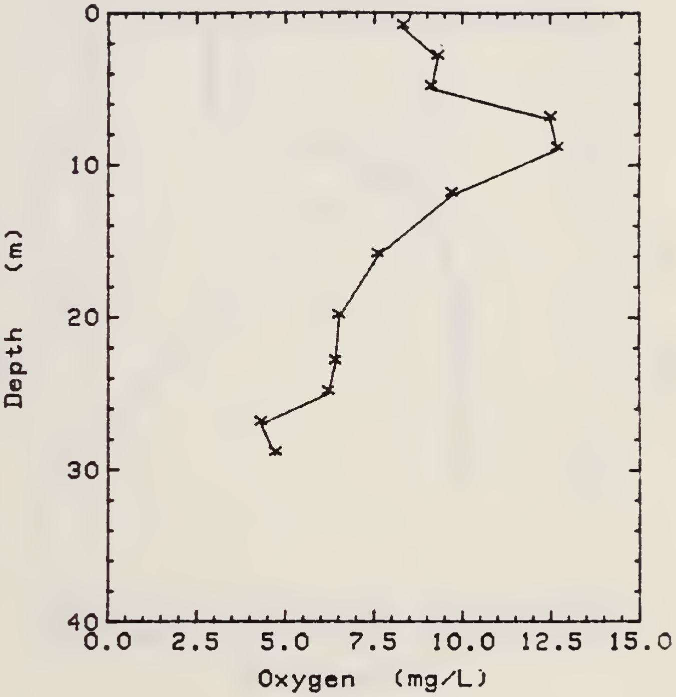

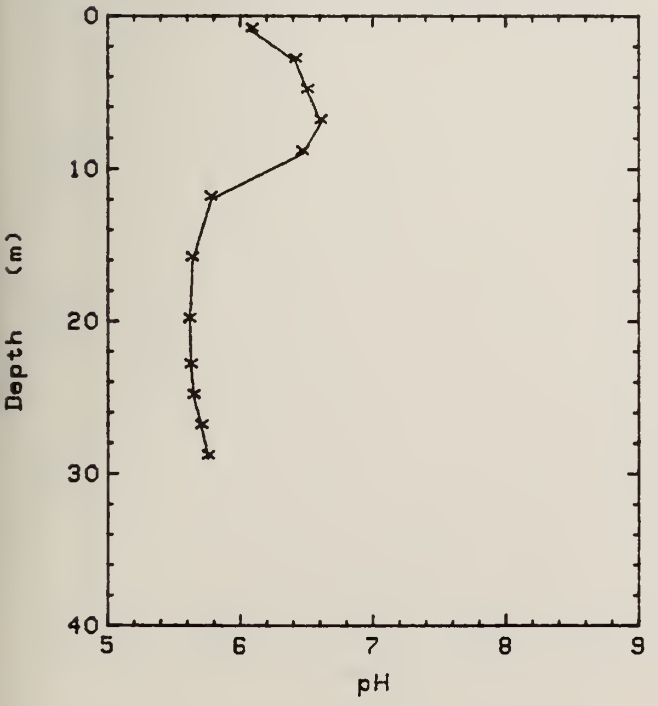

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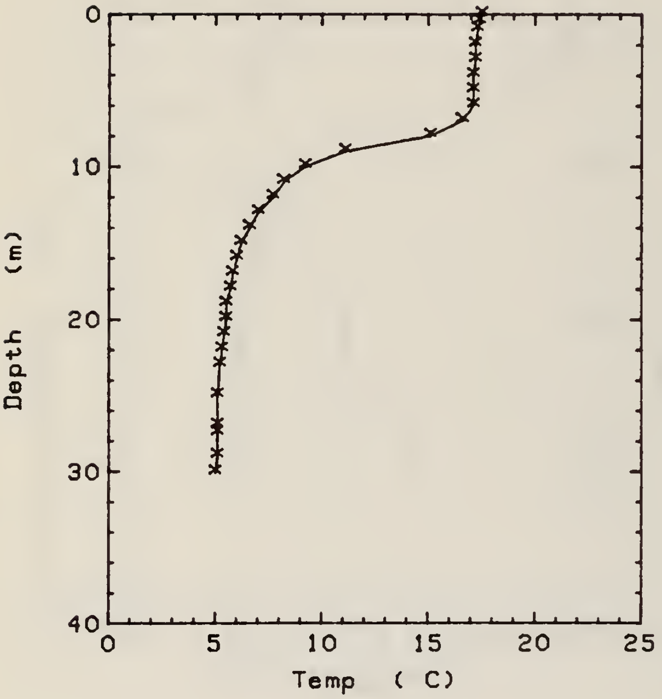

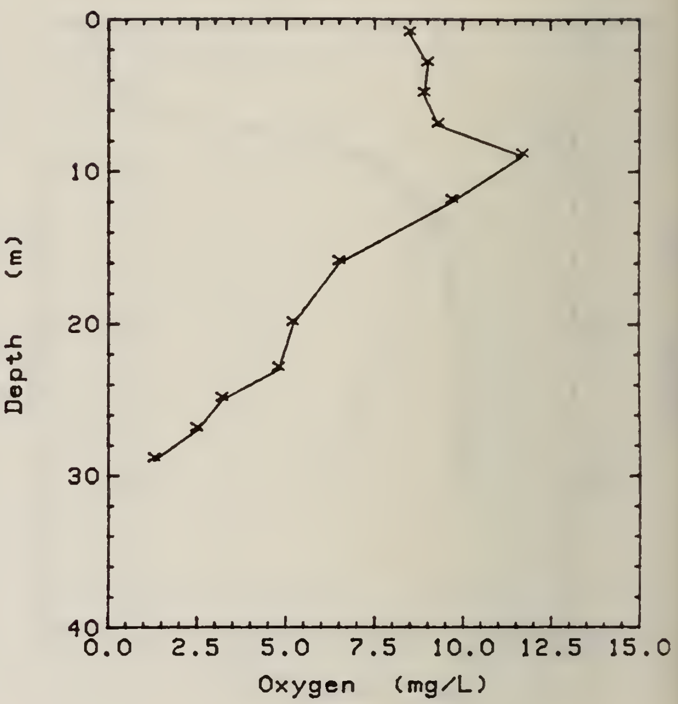

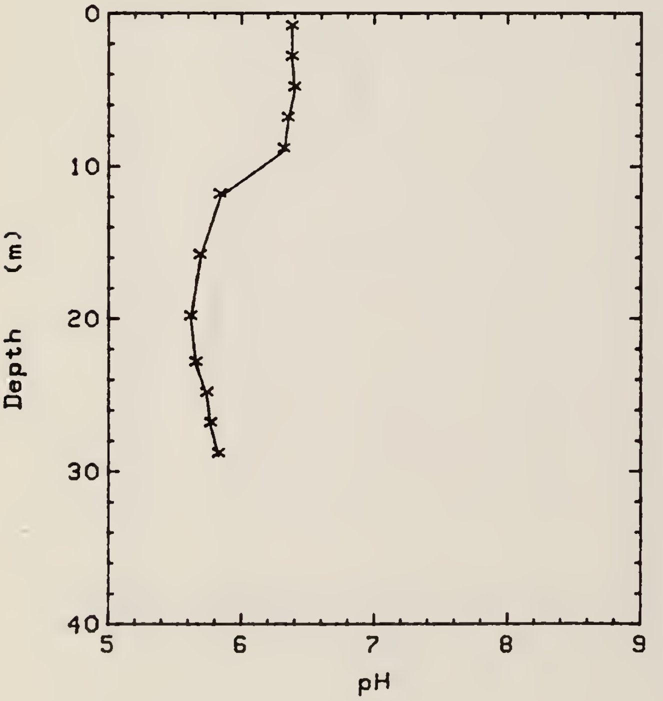

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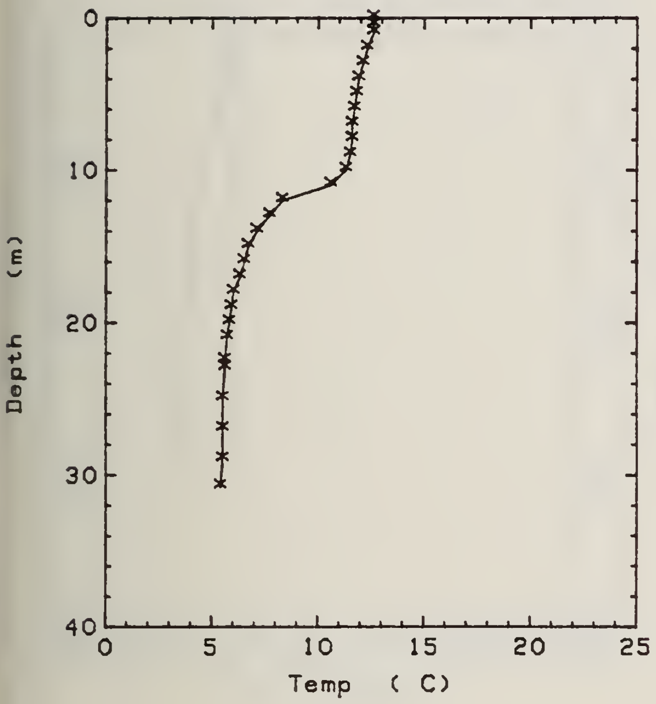

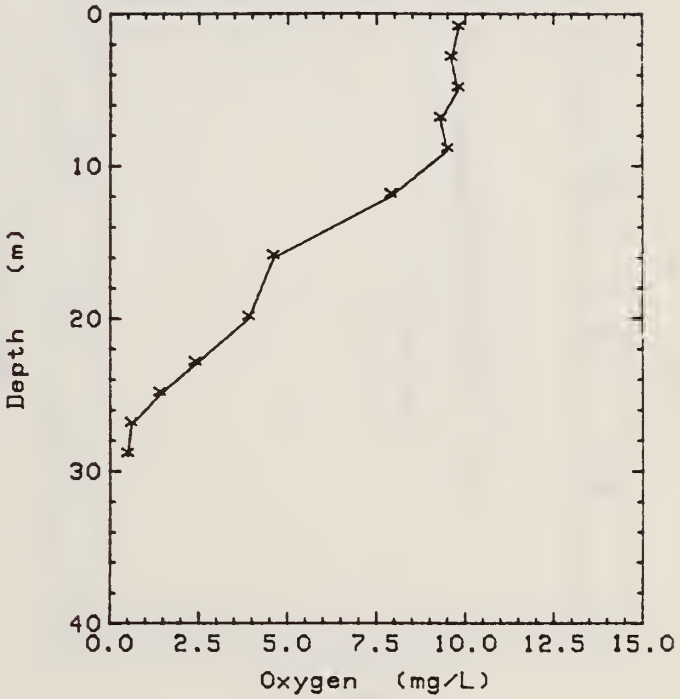

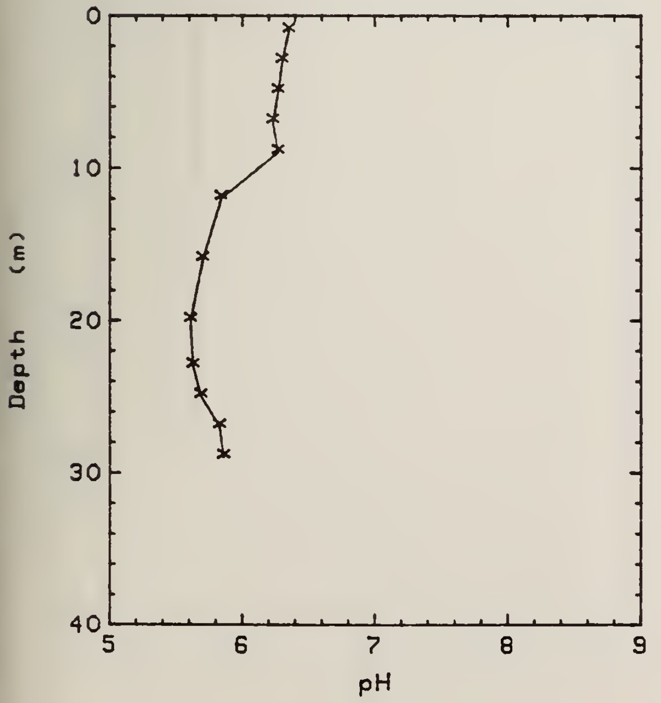

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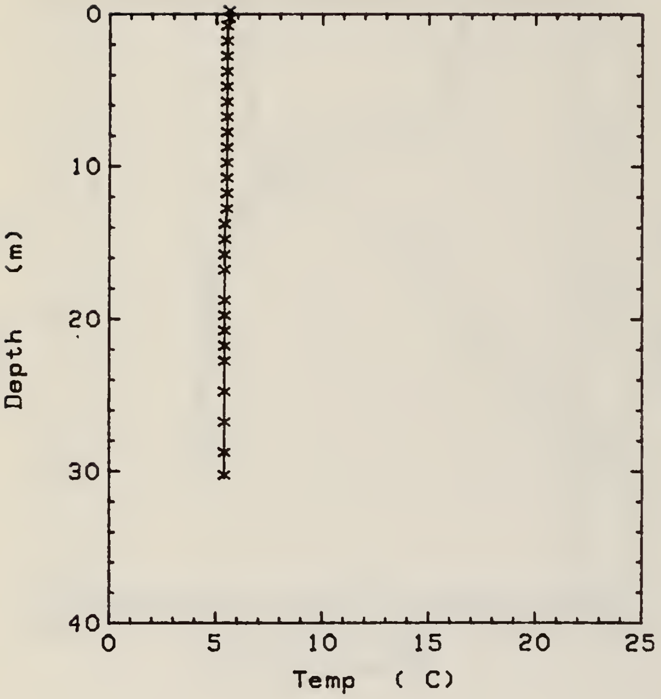
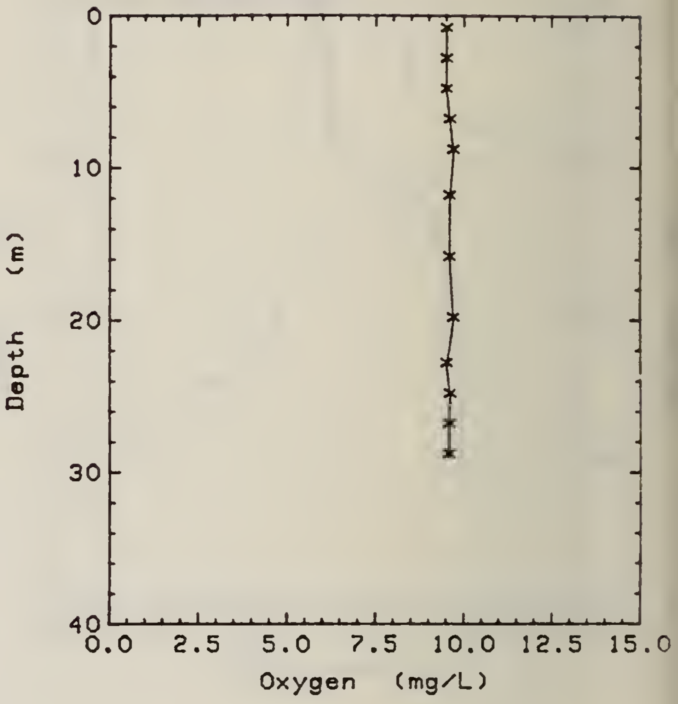
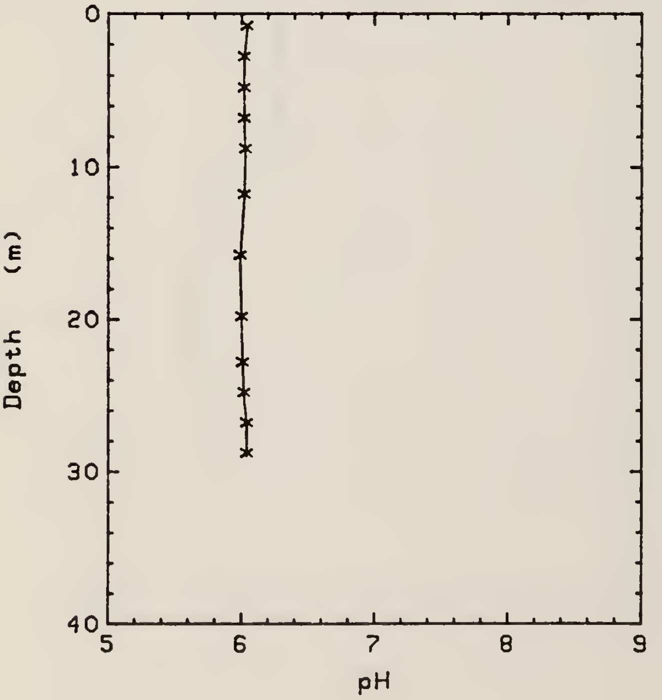
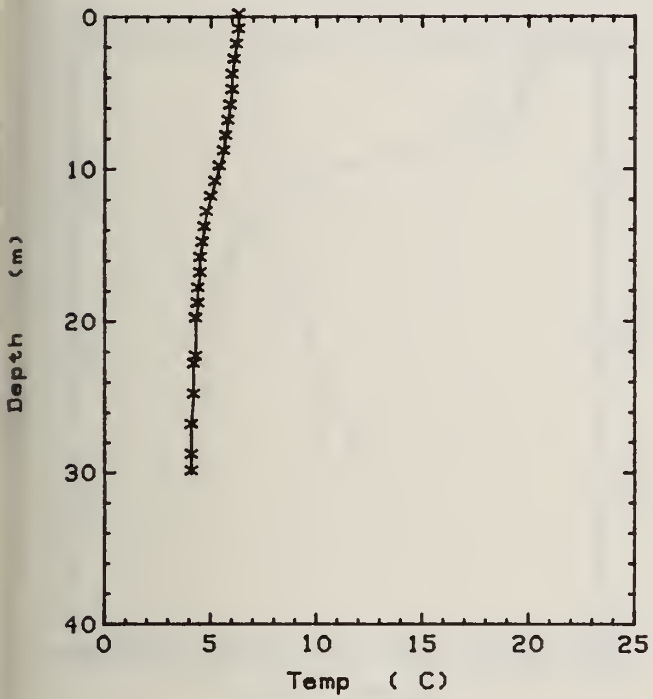
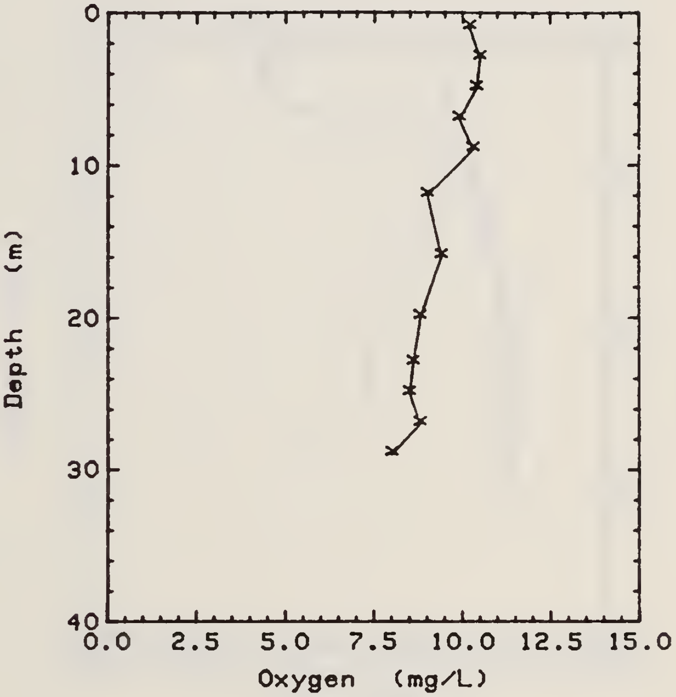


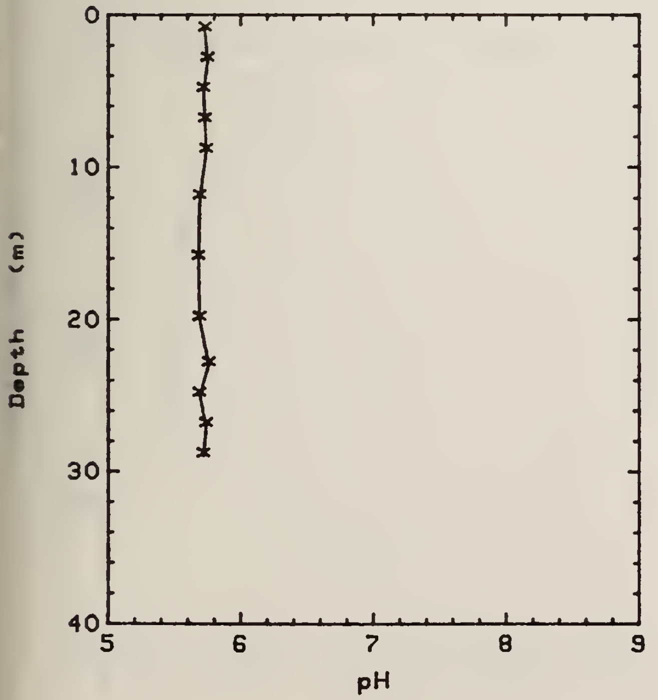




BIG PORCUPINE LAKE 85.05.09







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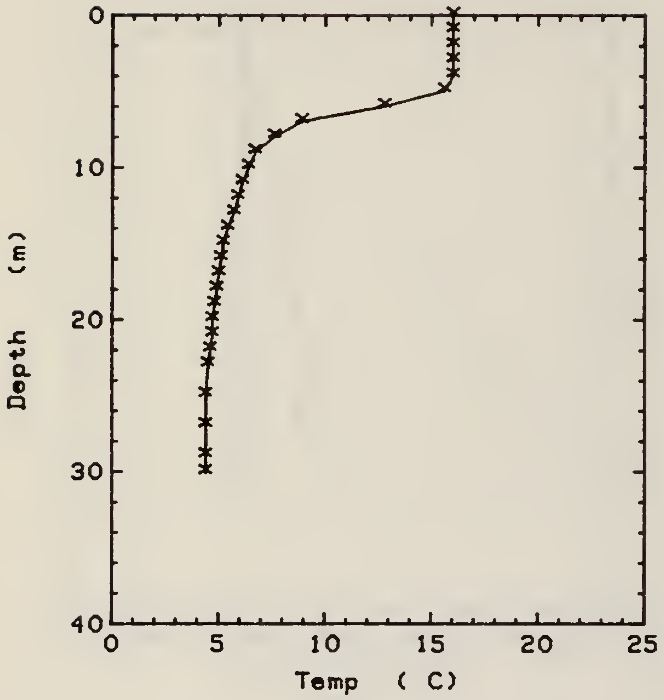

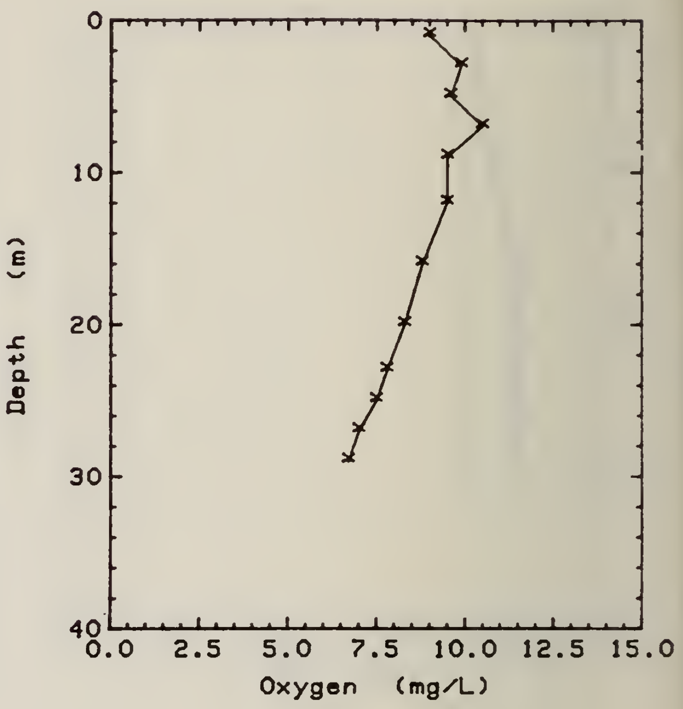

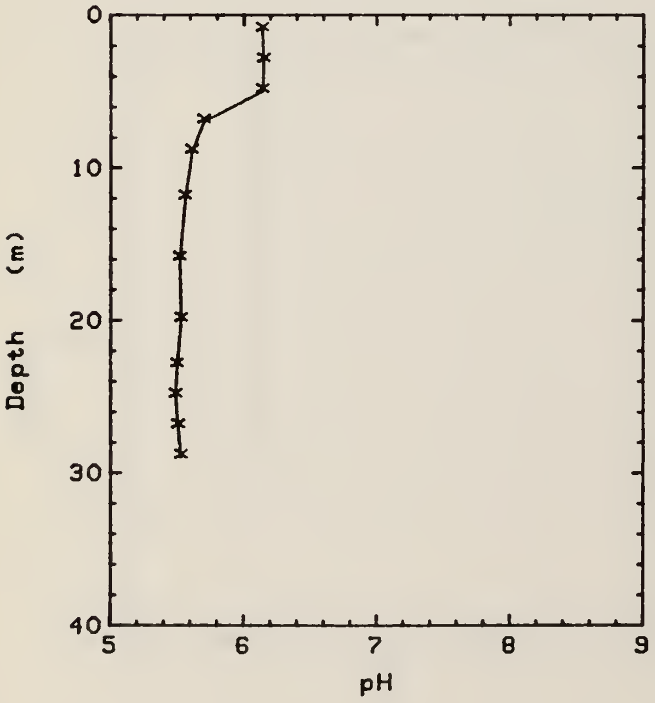

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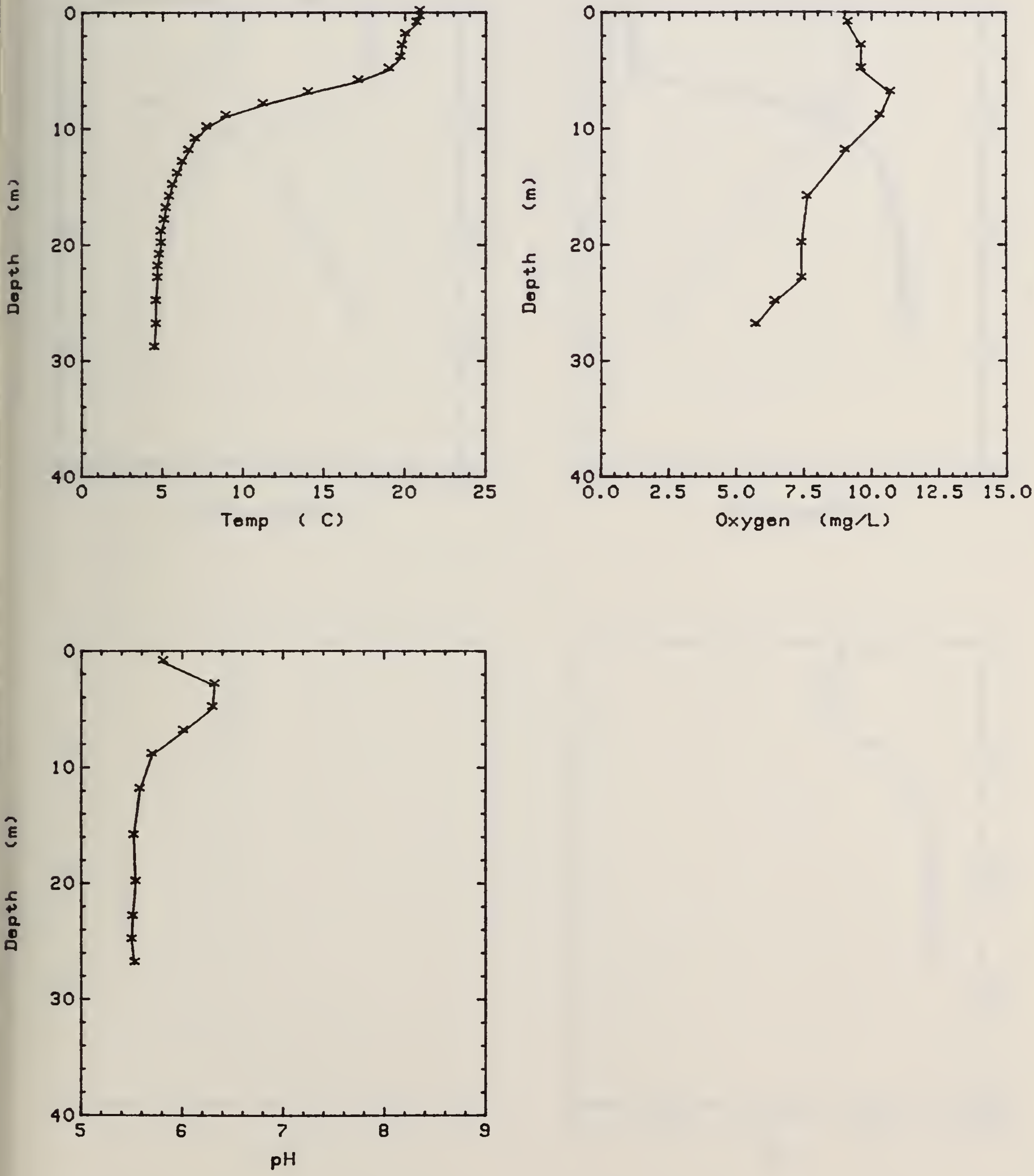

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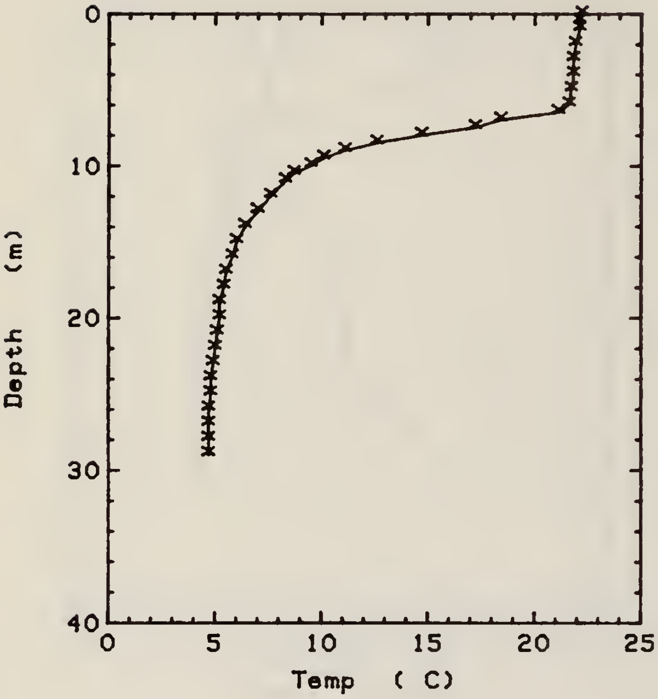

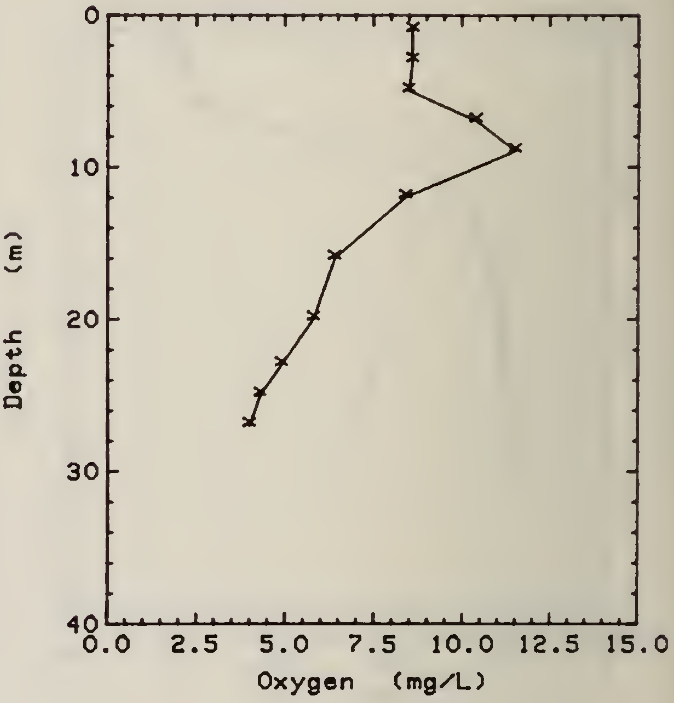

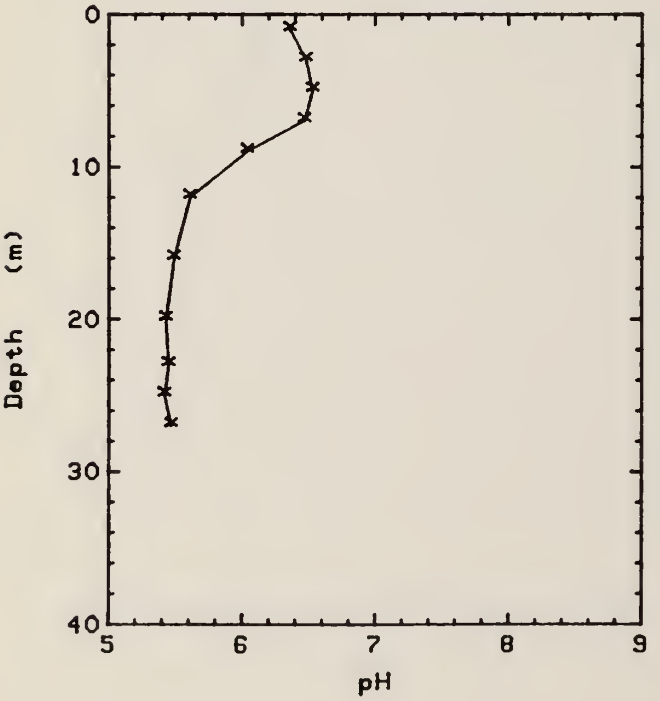

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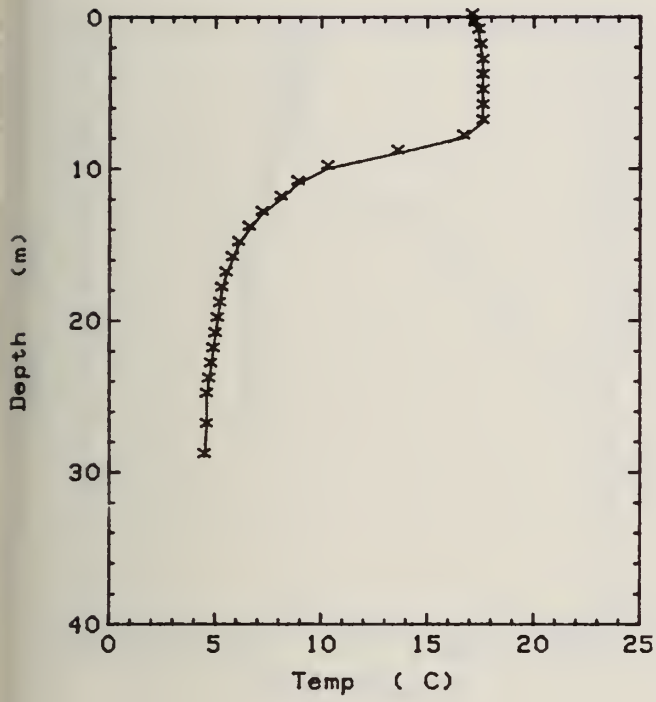

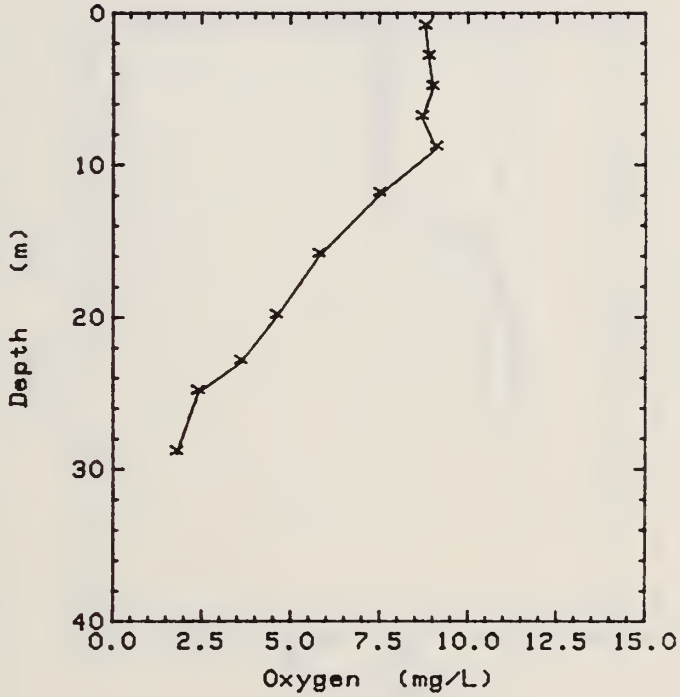

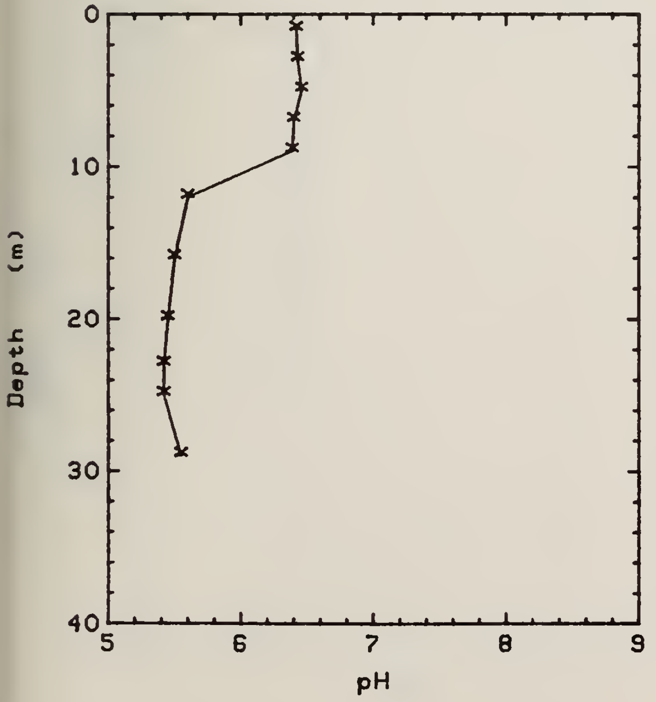

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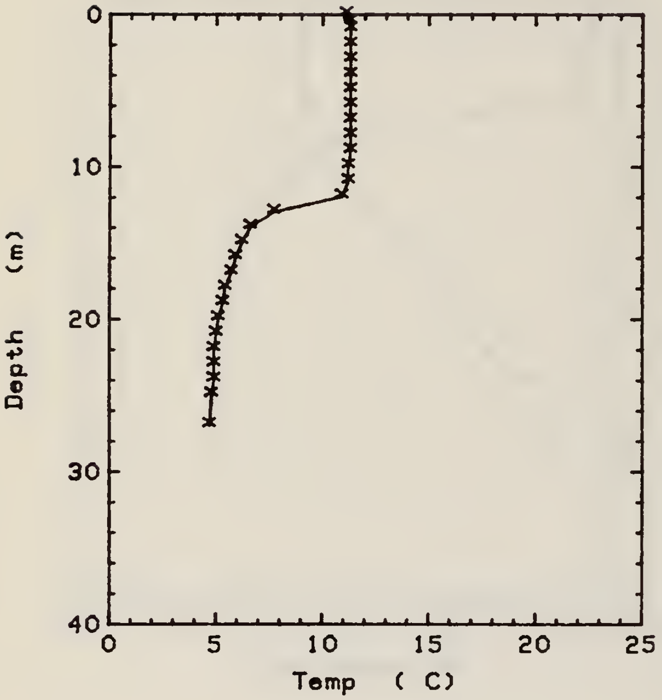

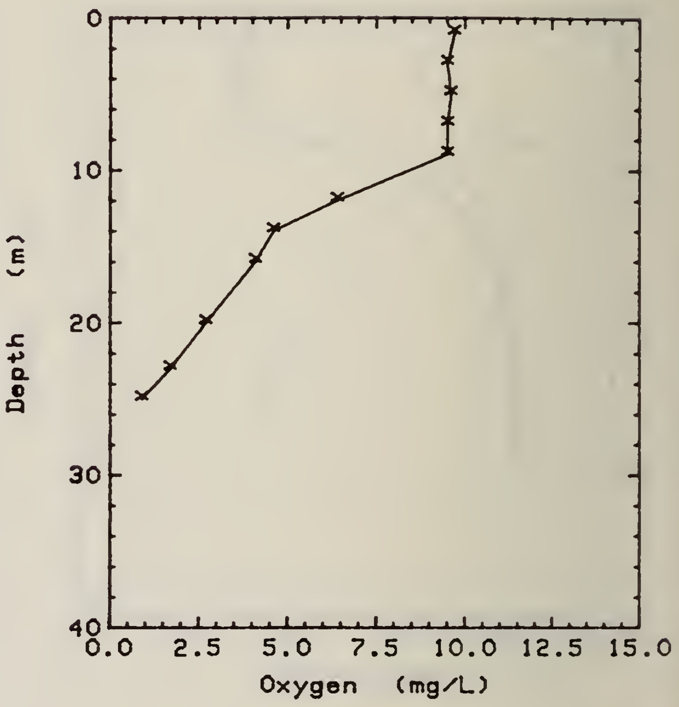

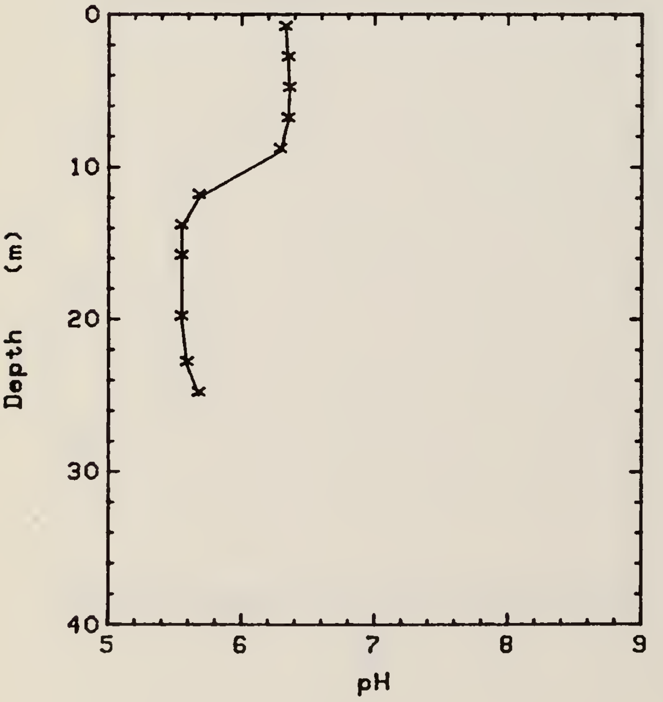

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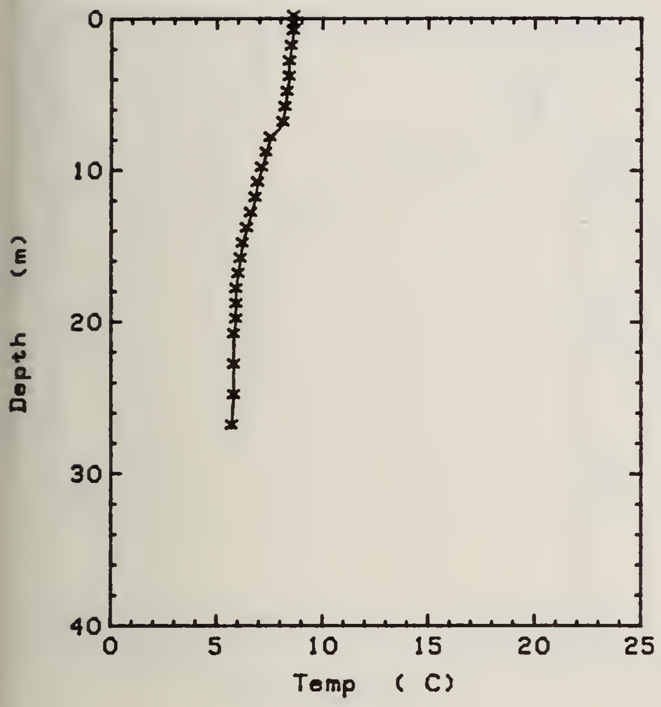

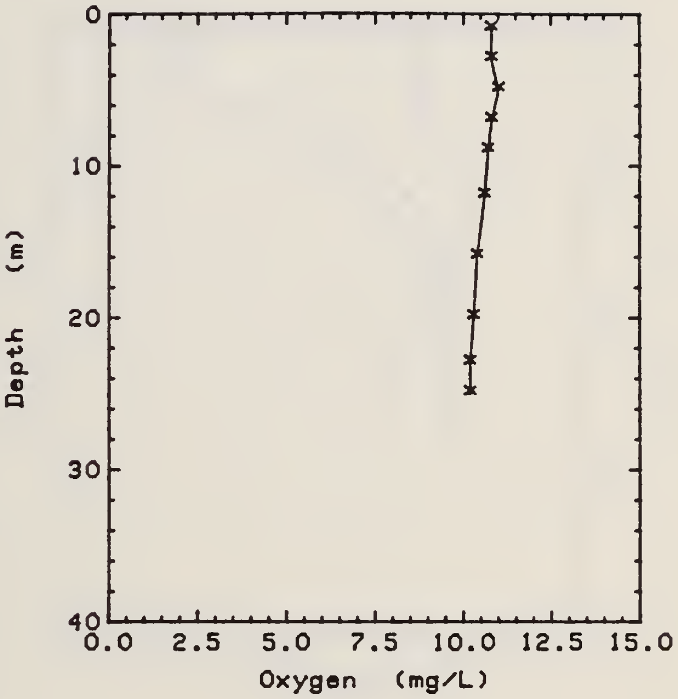

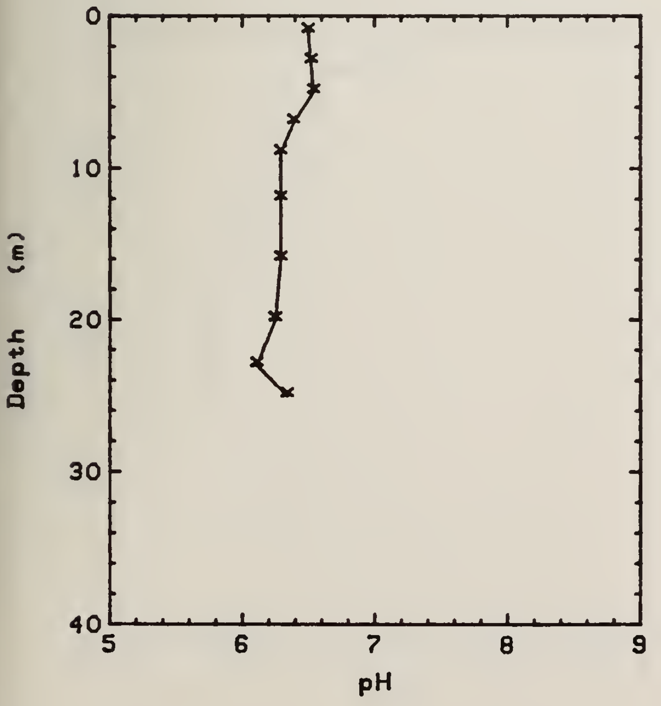

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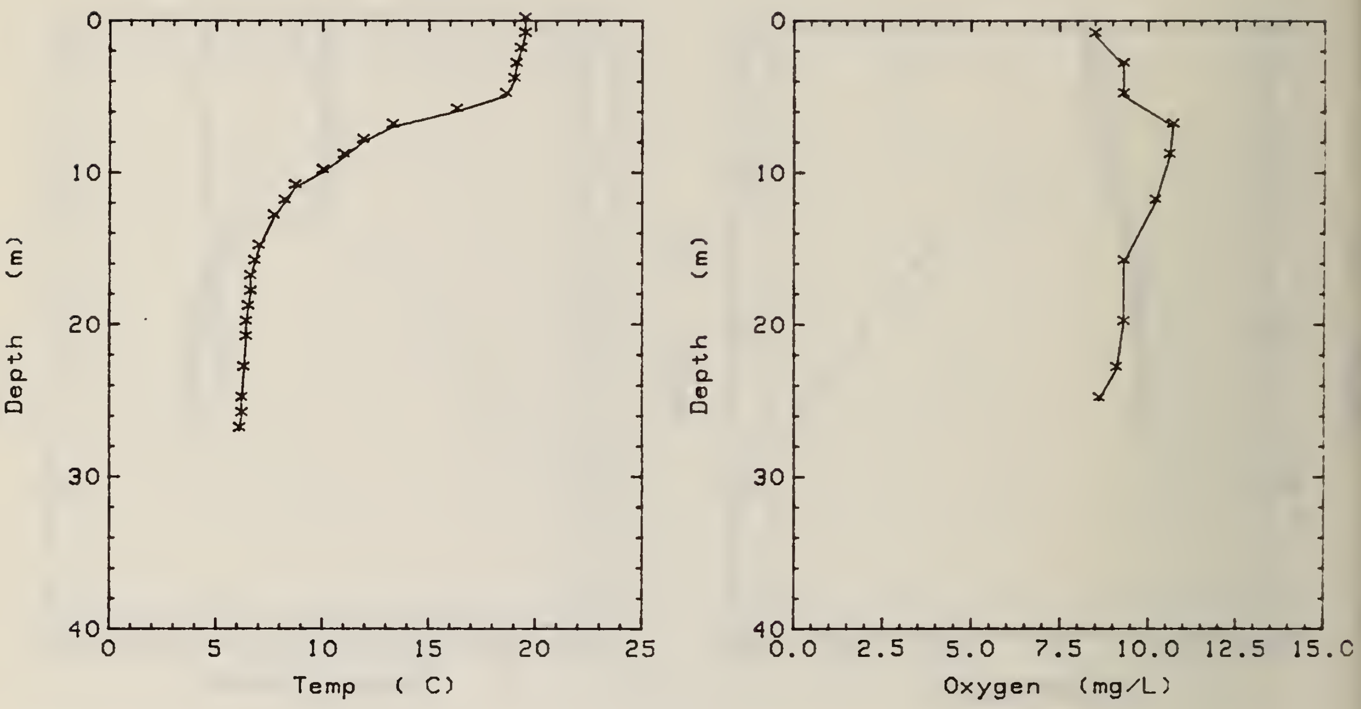

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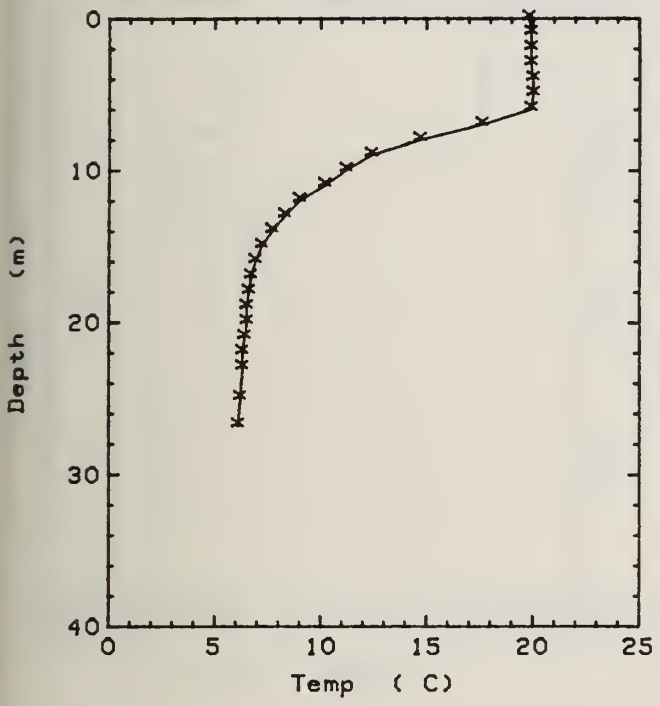

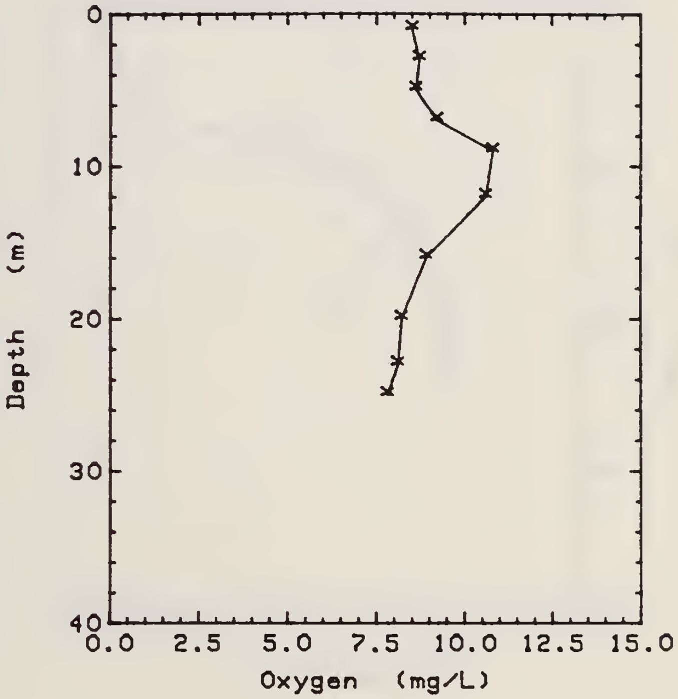

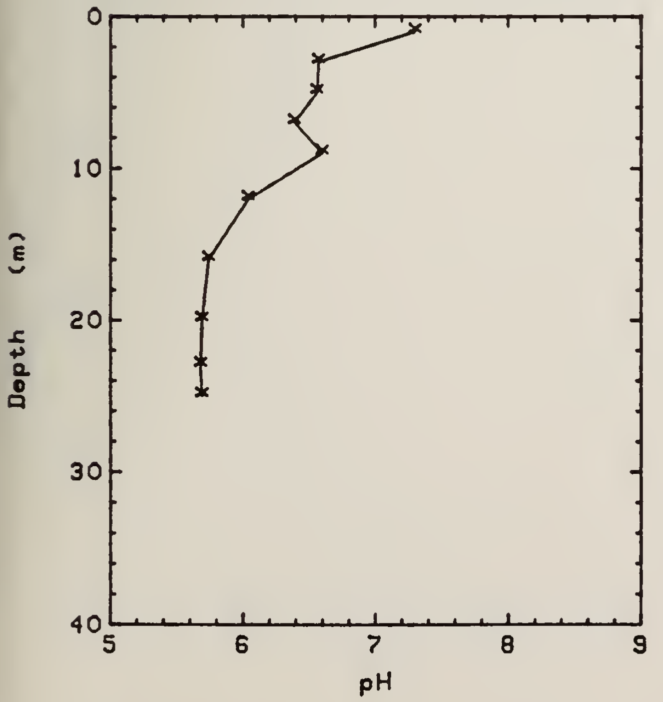

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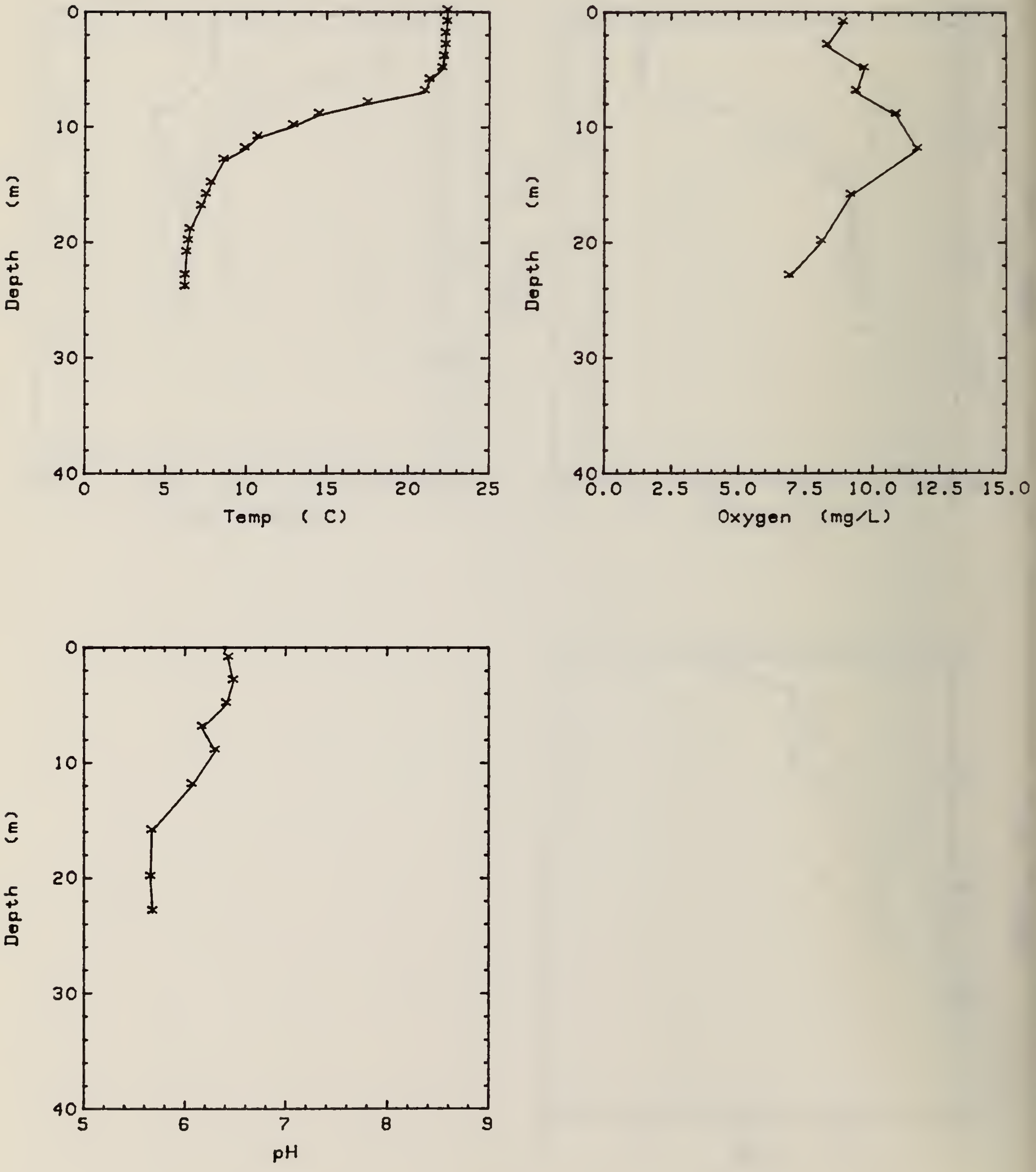

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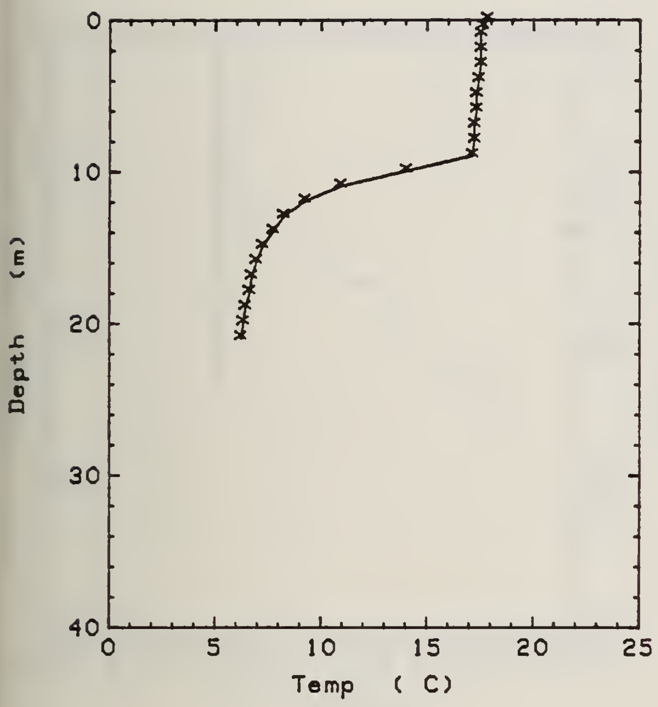

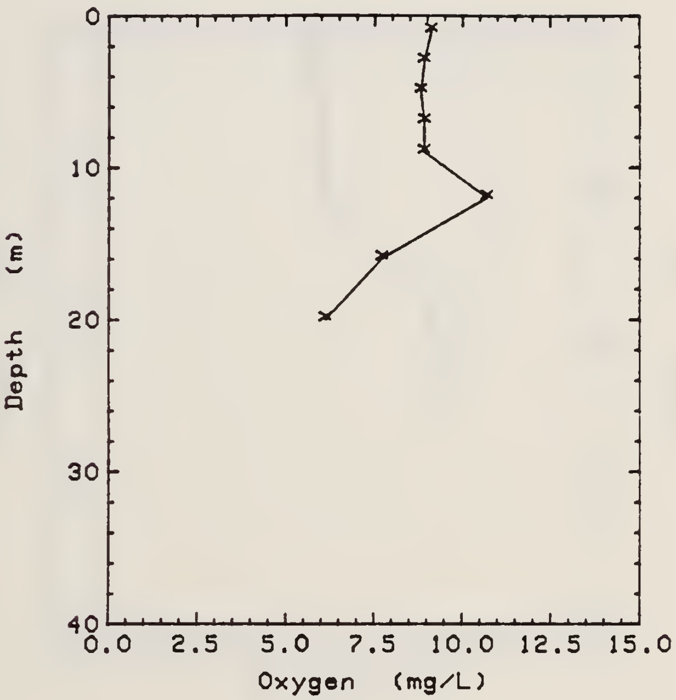

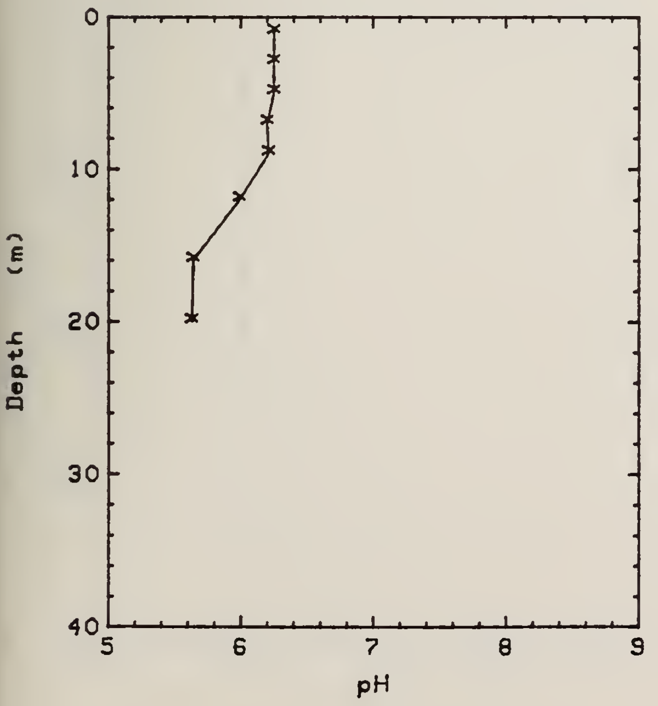

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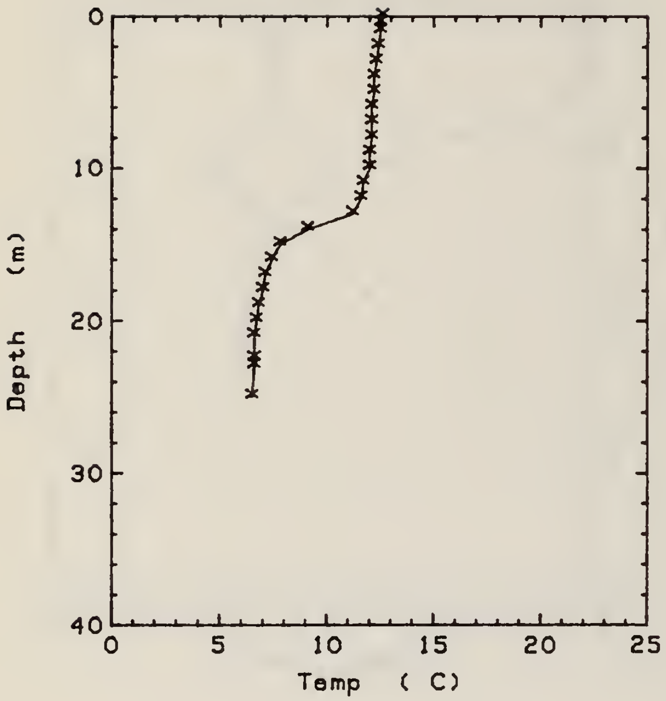

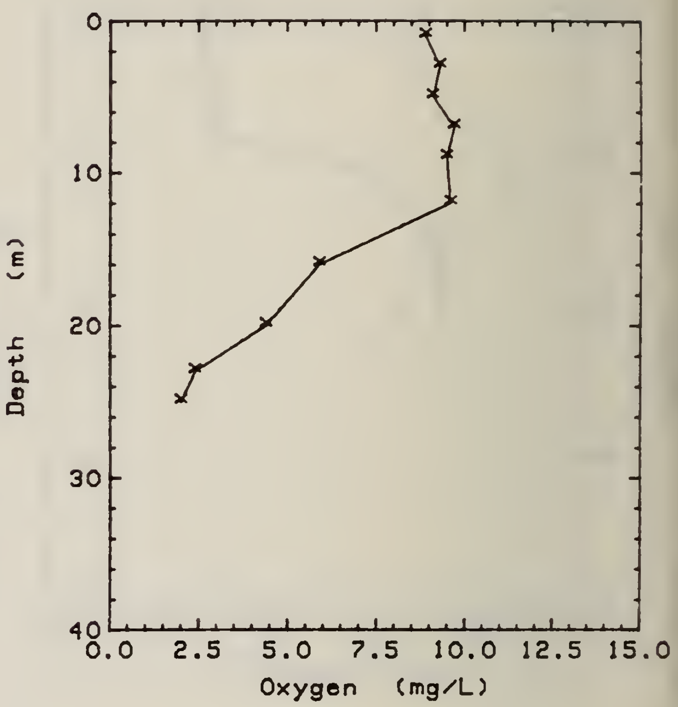

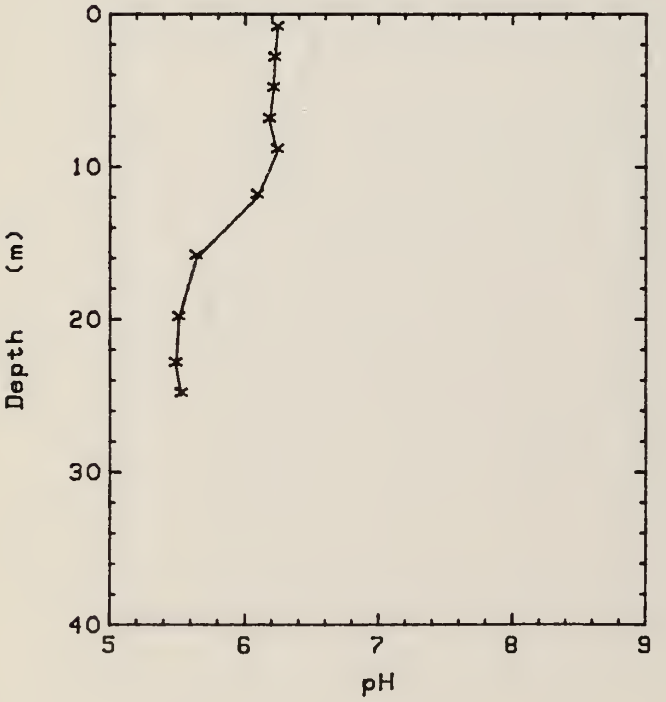

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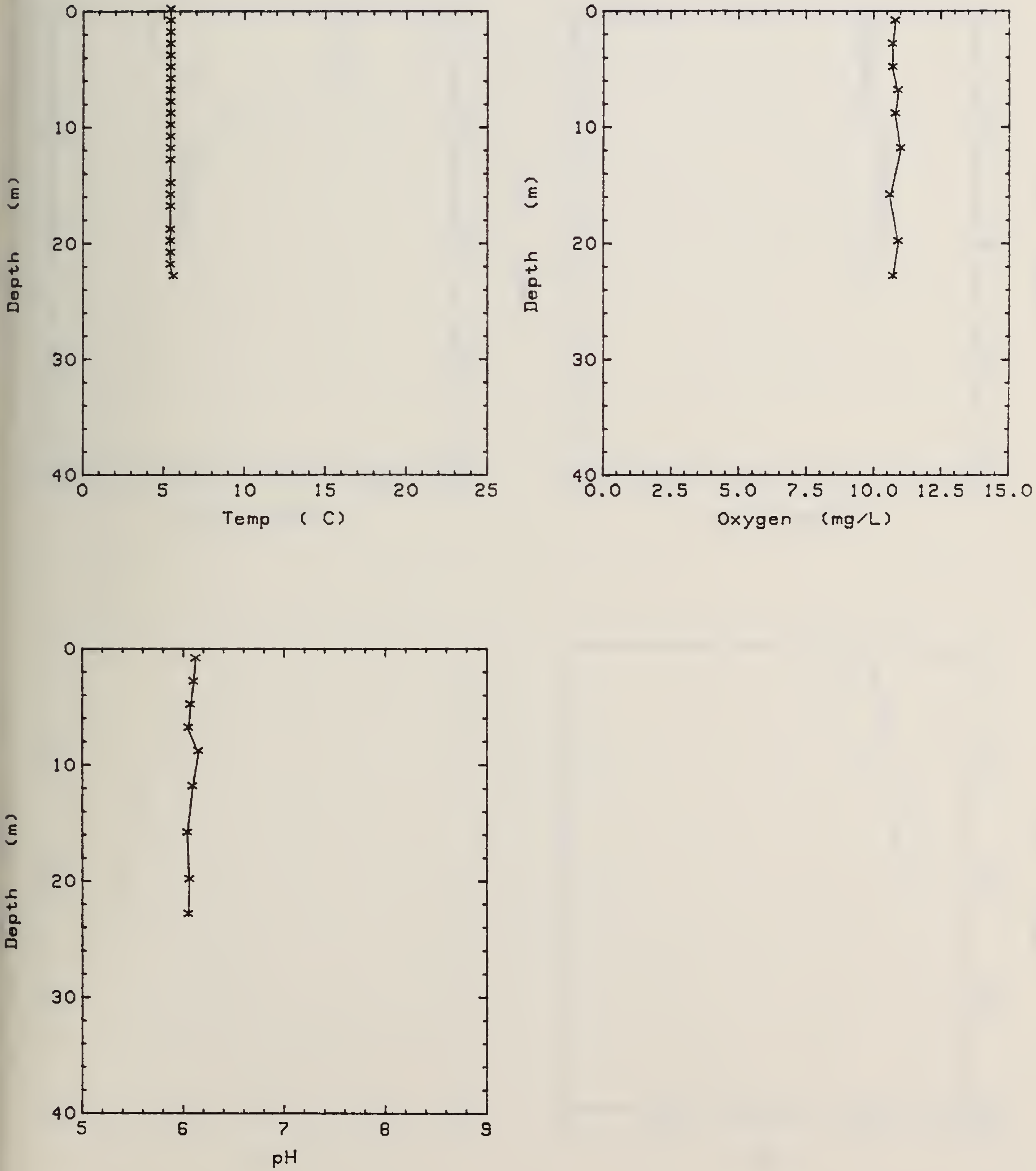
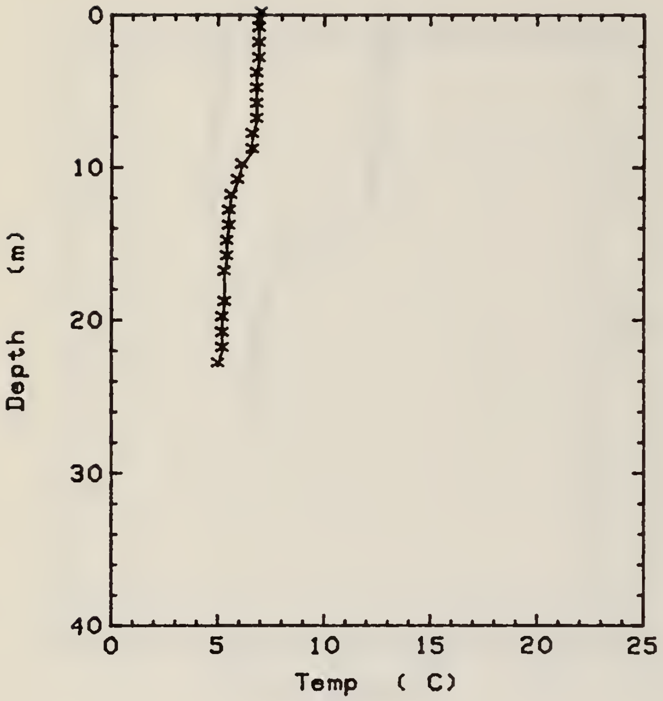
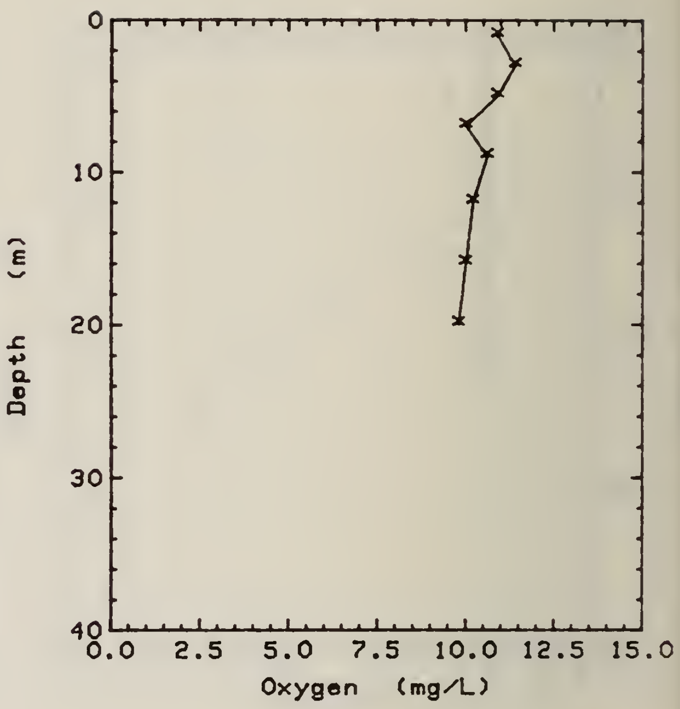
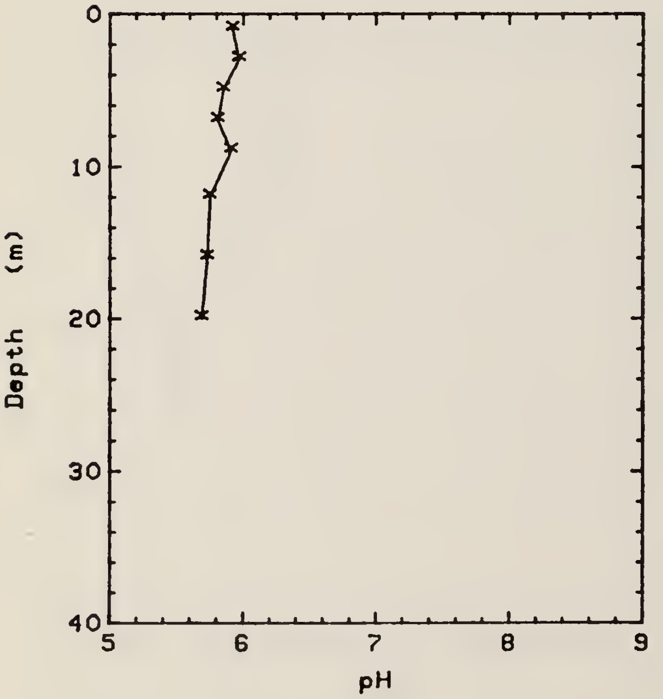


CROWN LAKE 85.05.09







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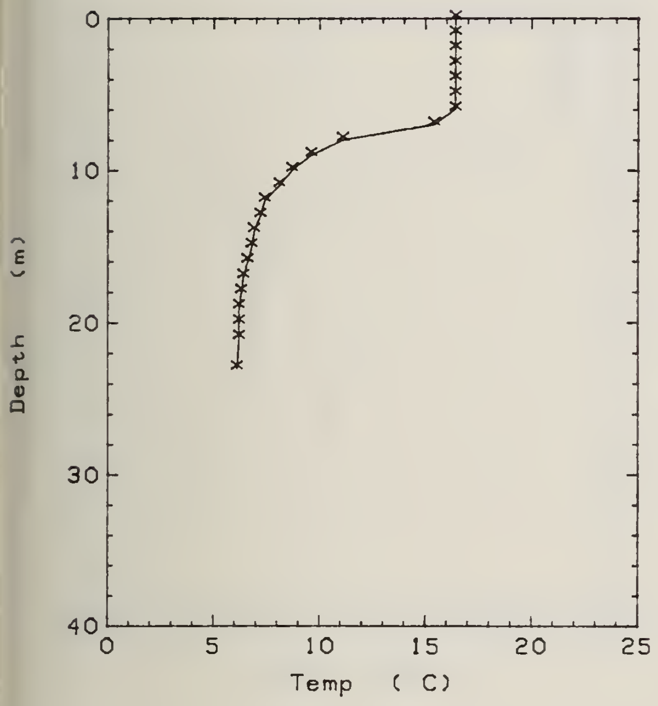

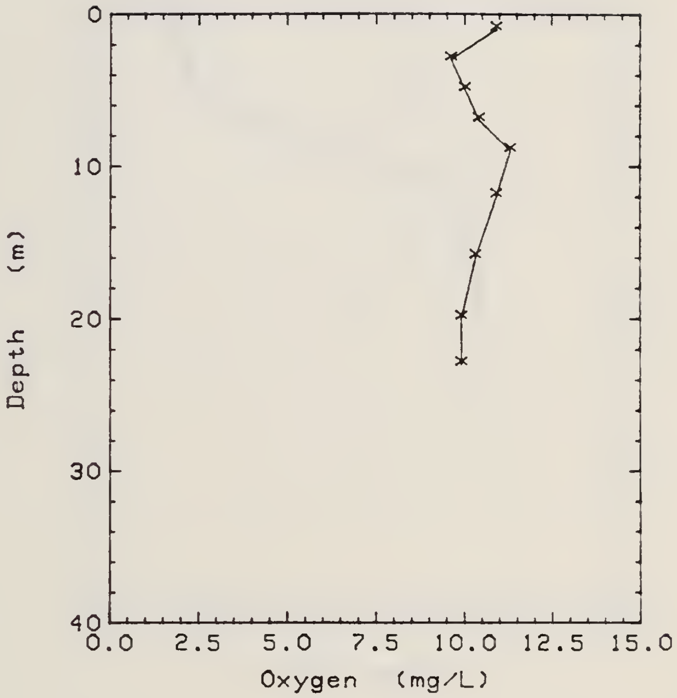

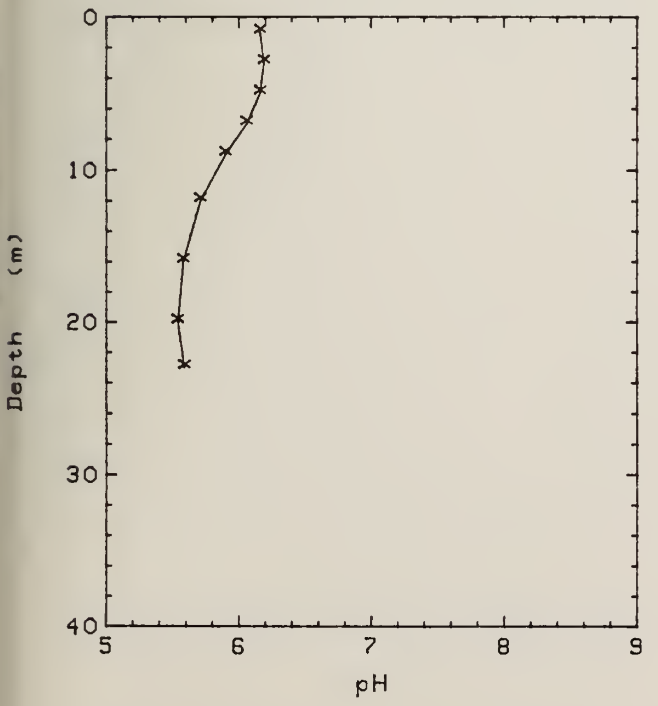

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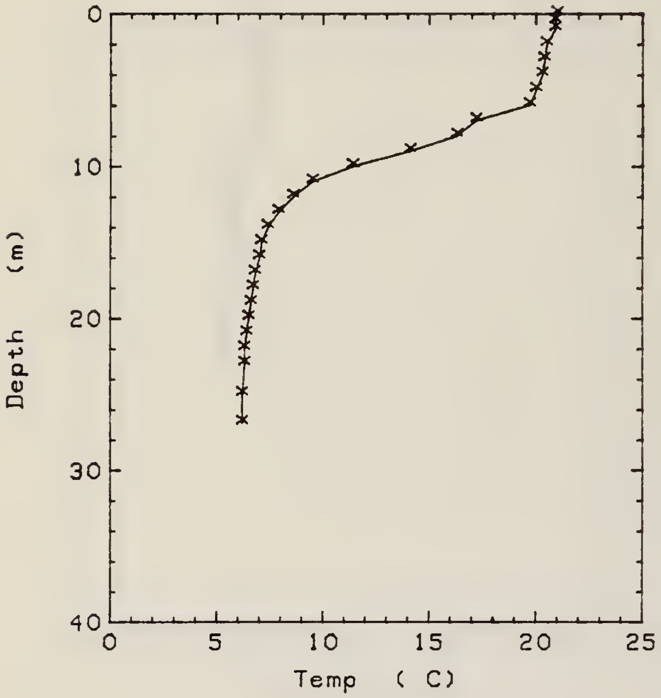

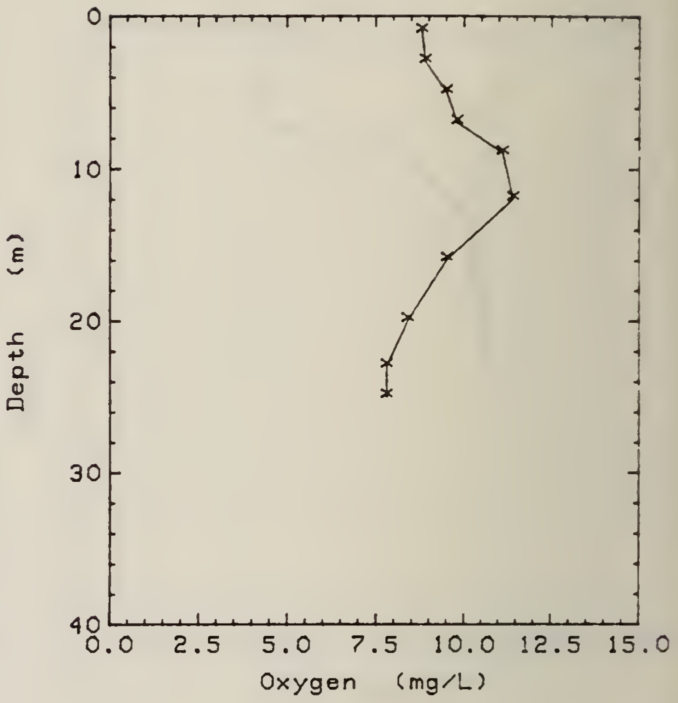

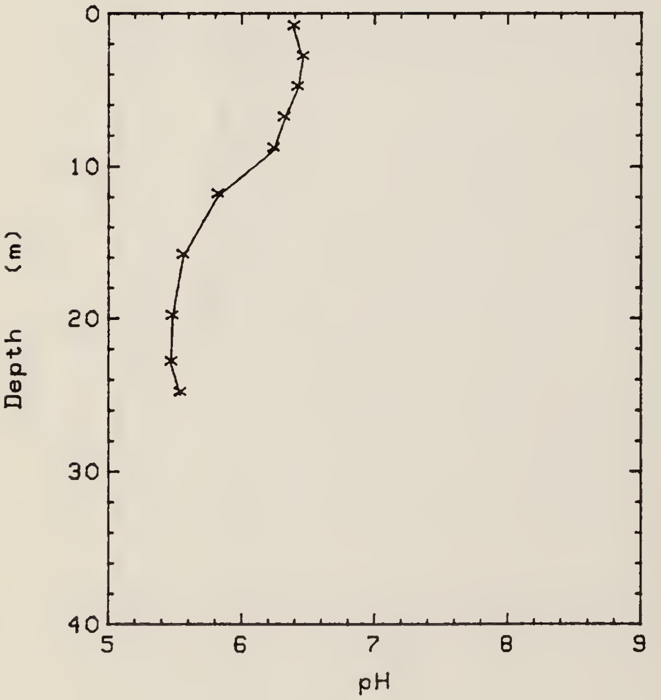

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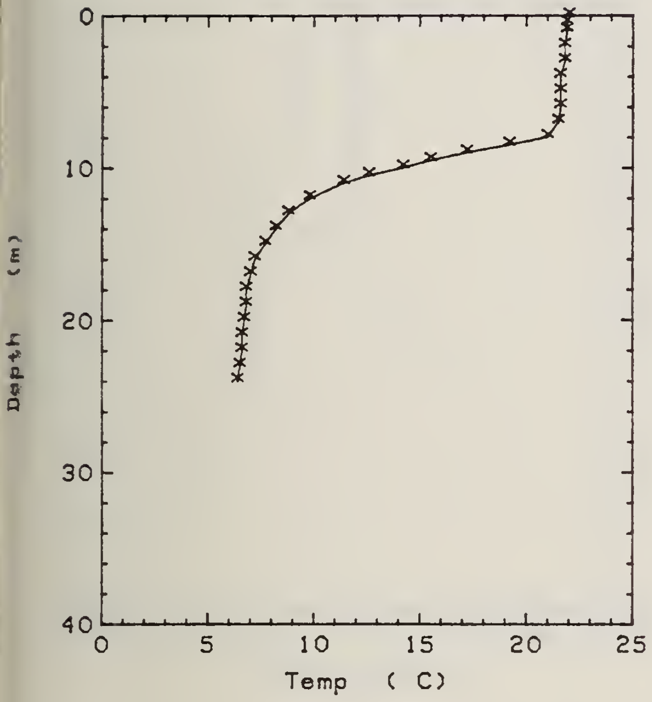

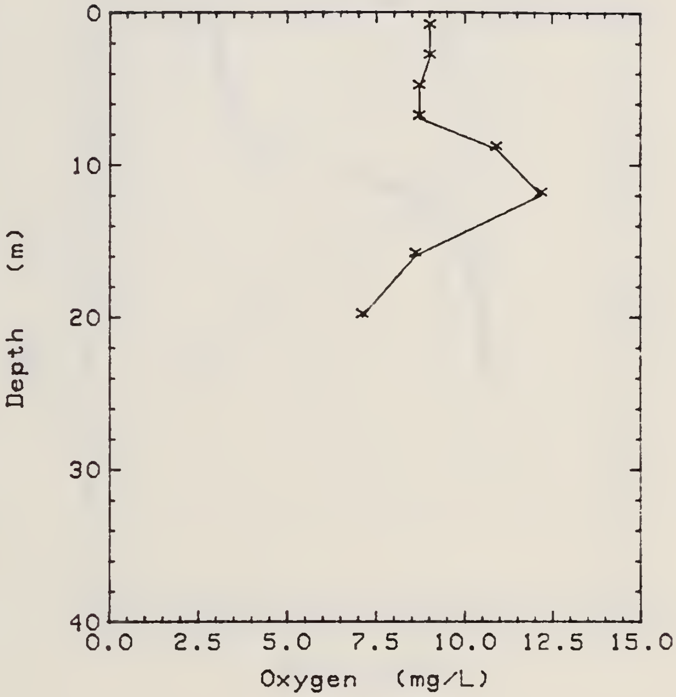

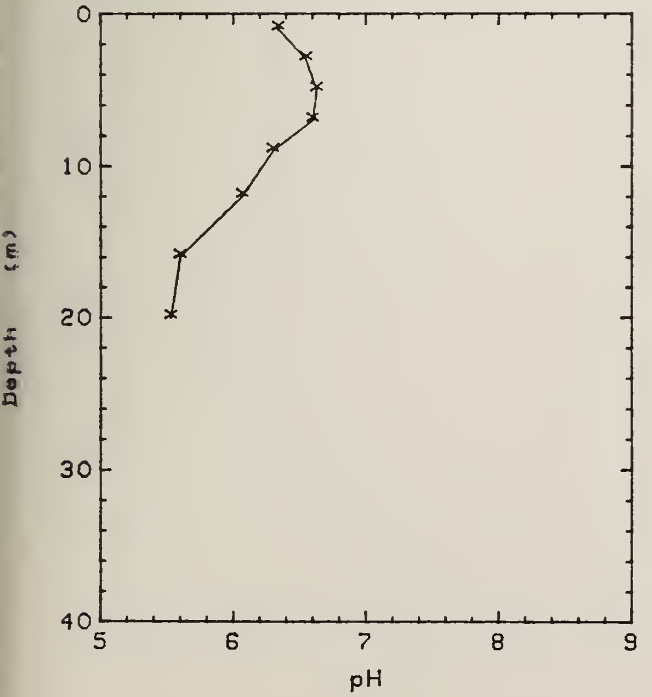

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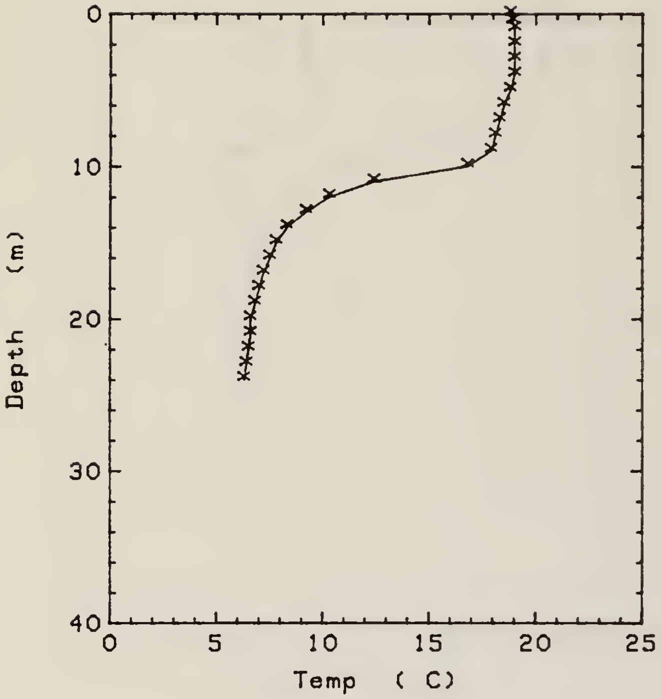

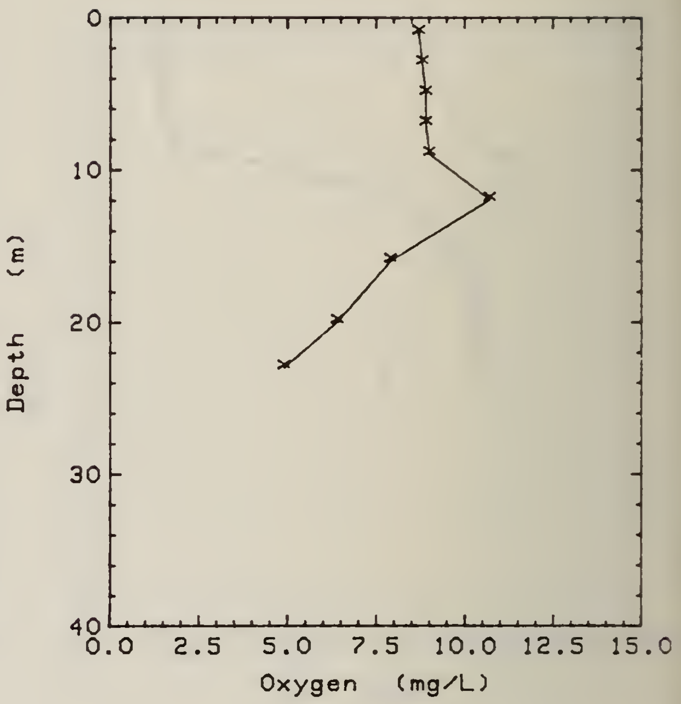

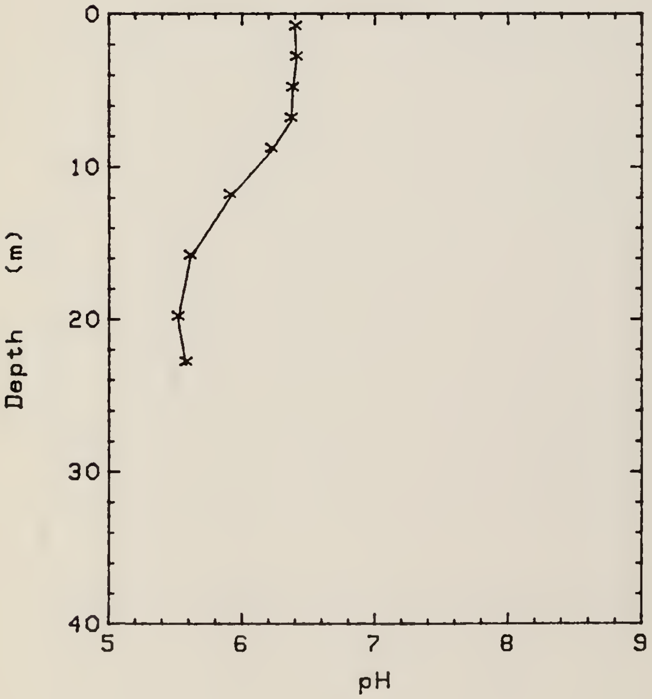

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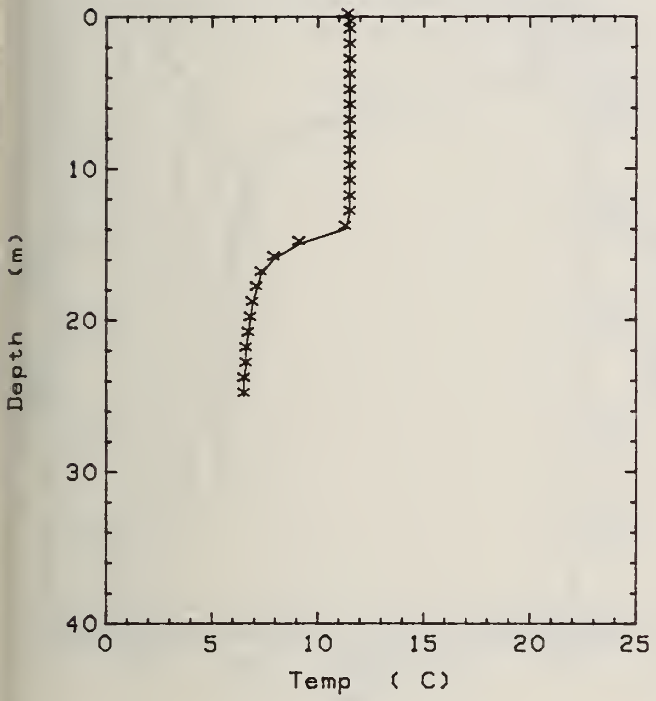

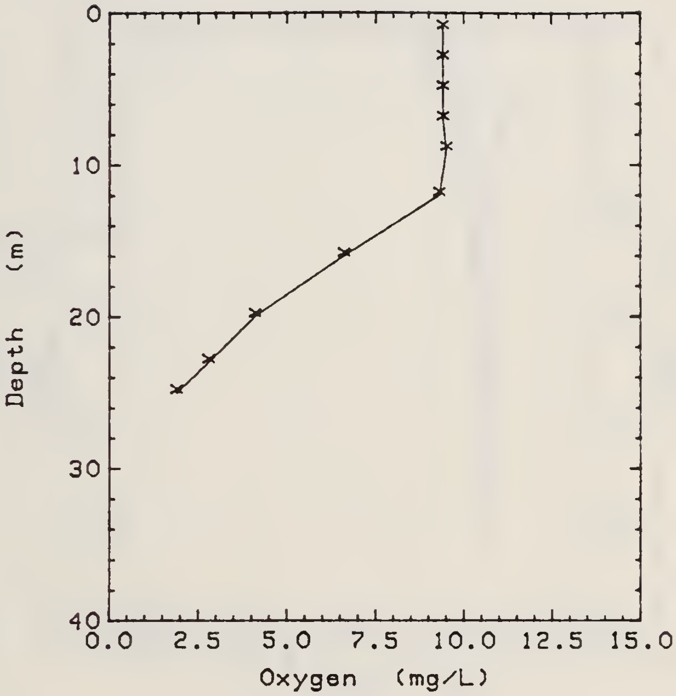

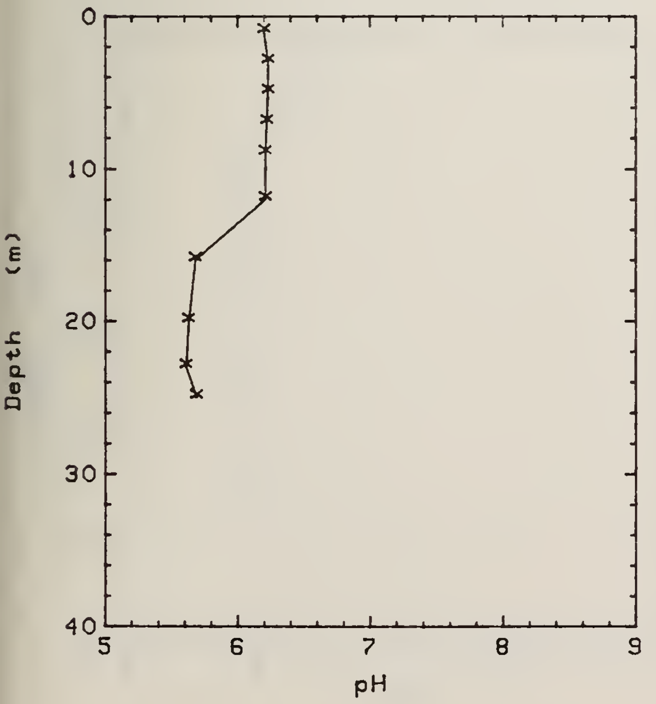

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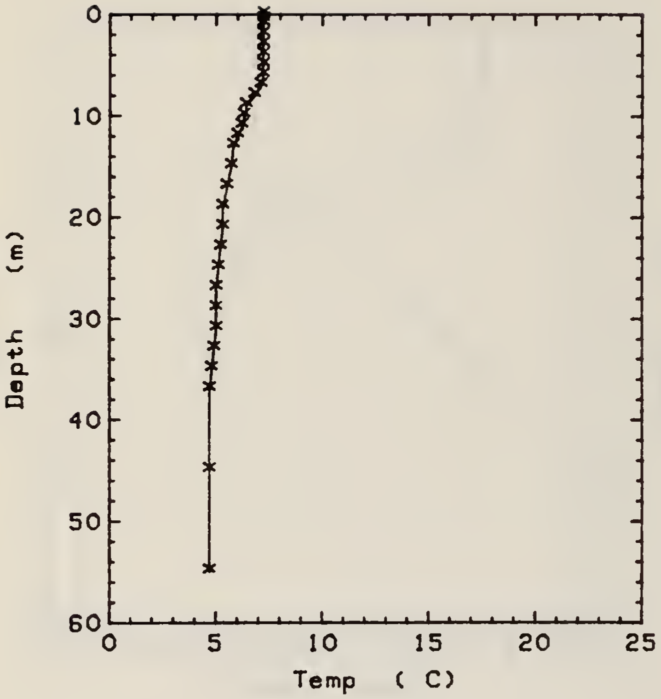

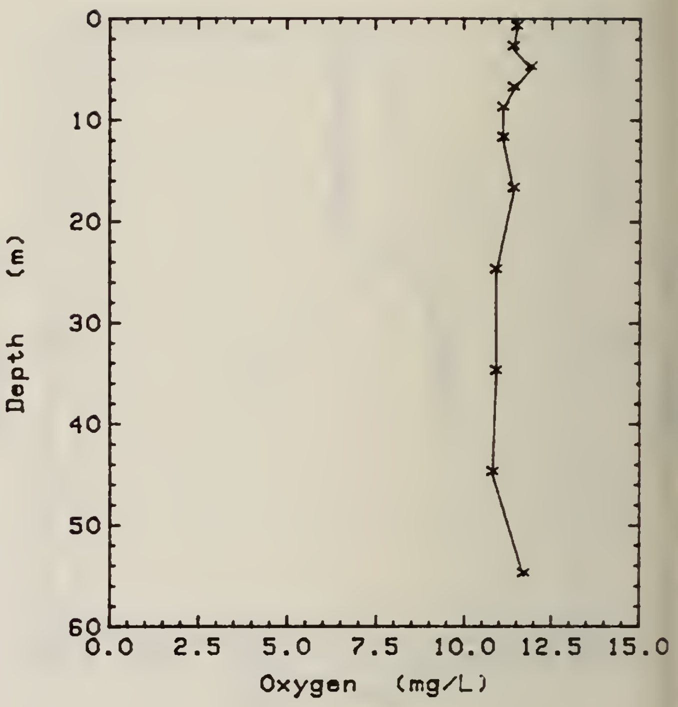

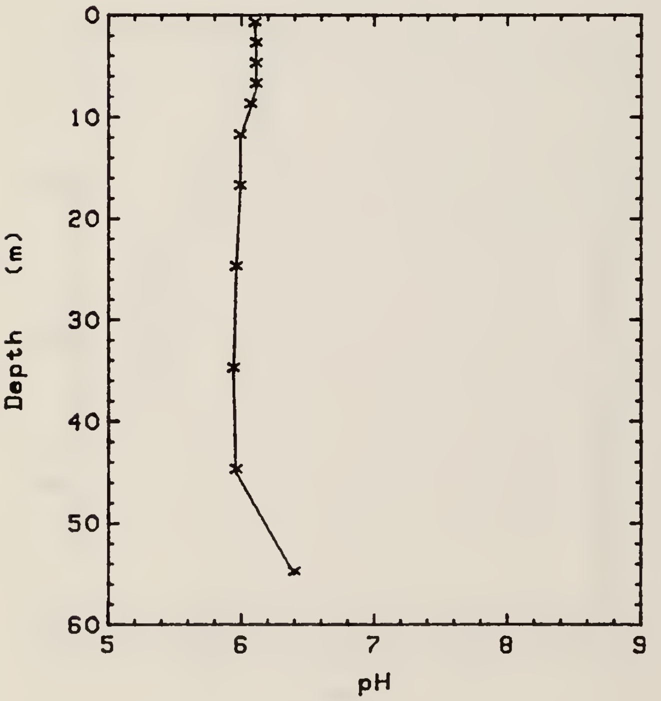

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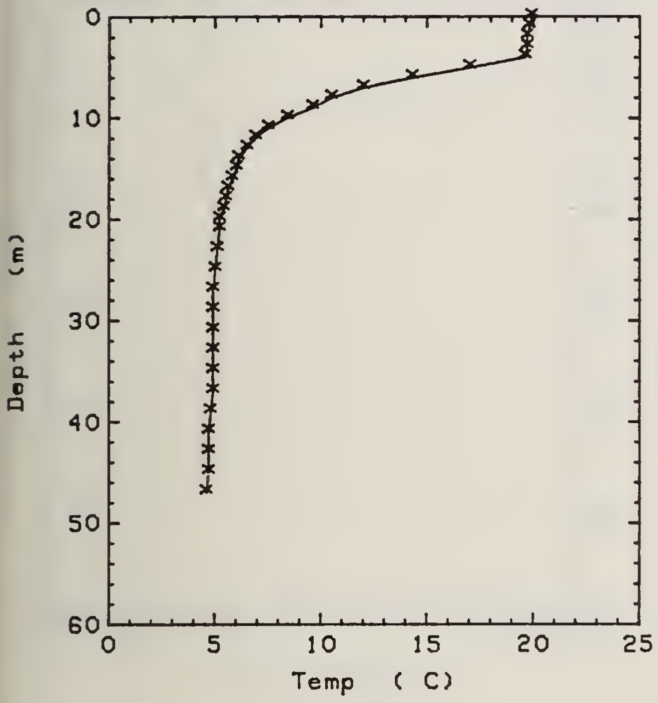

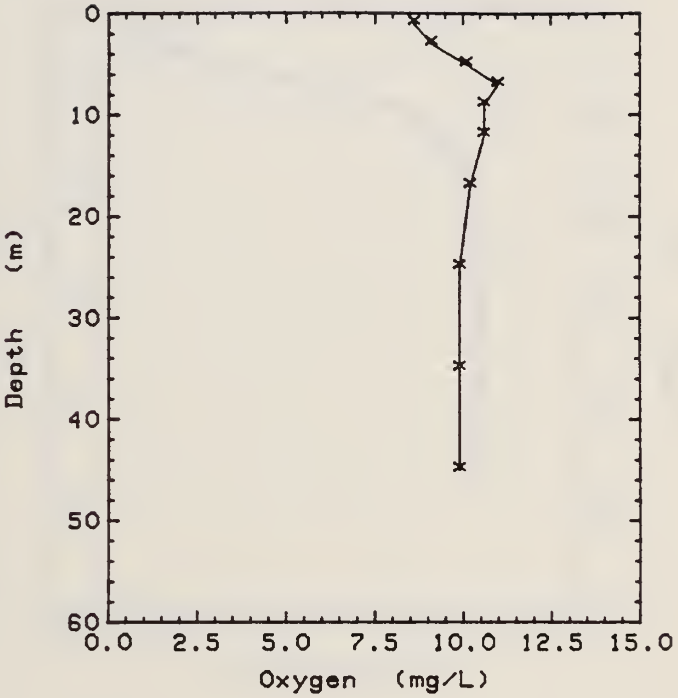

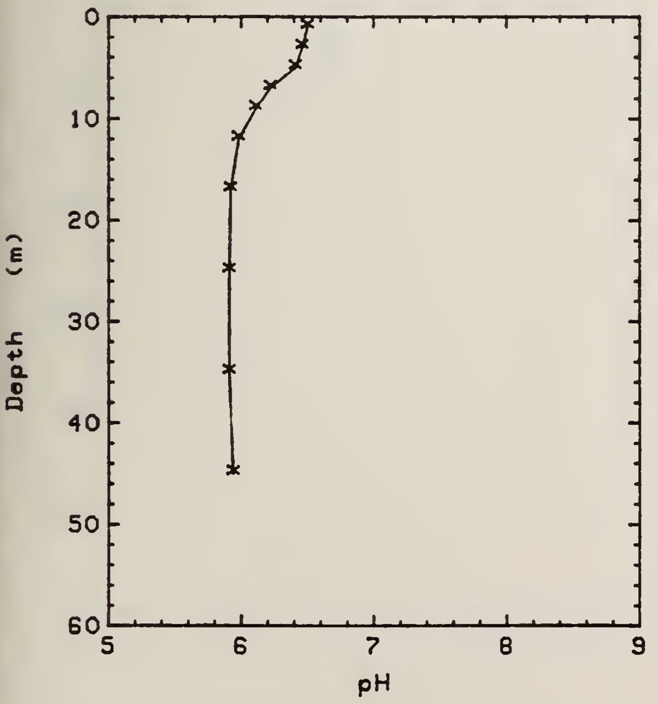

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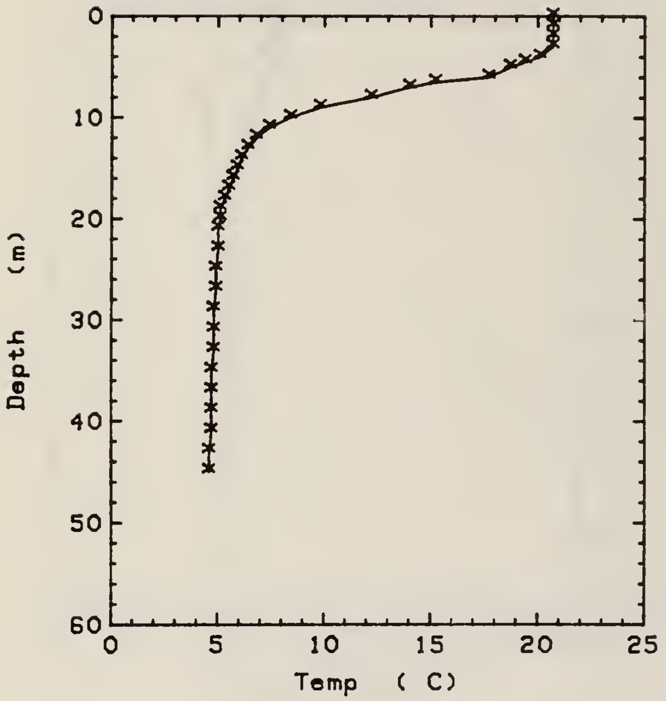

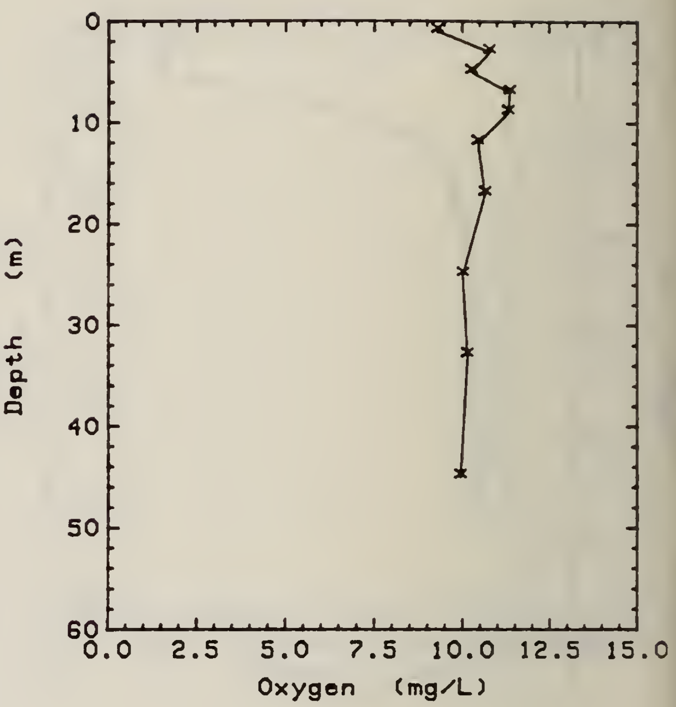

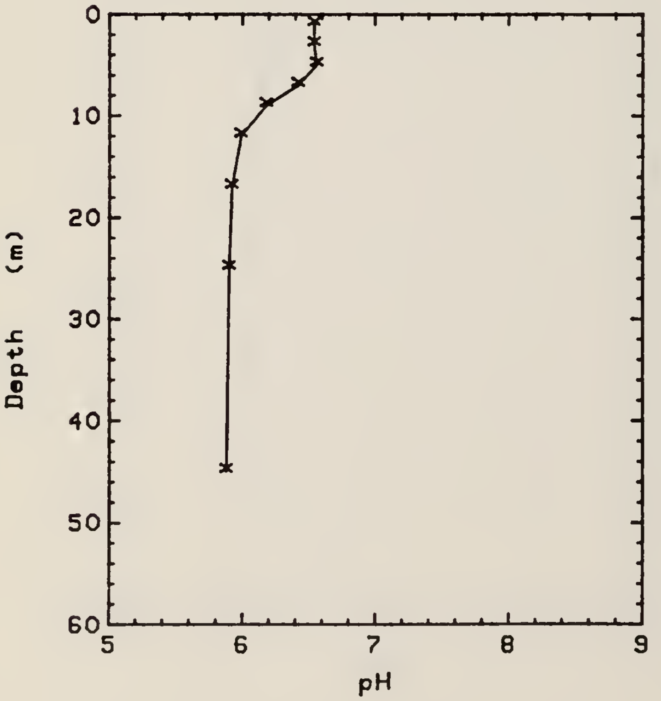

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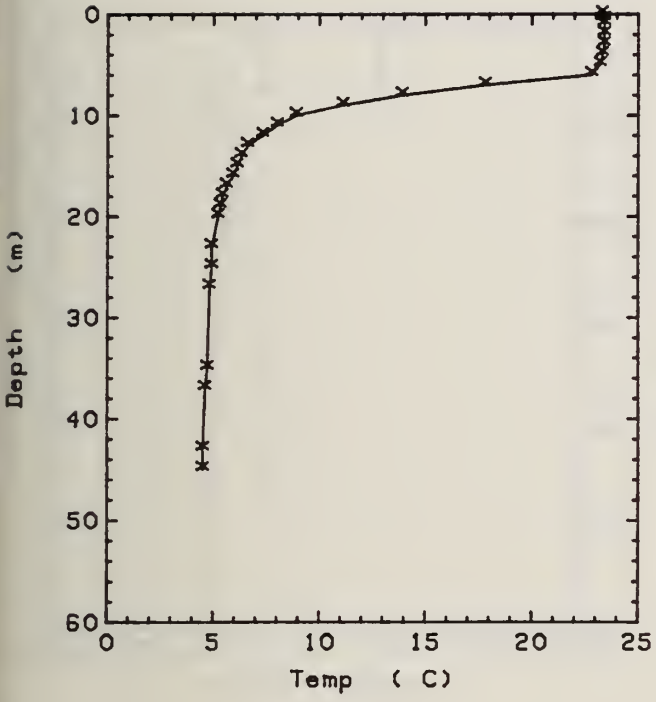

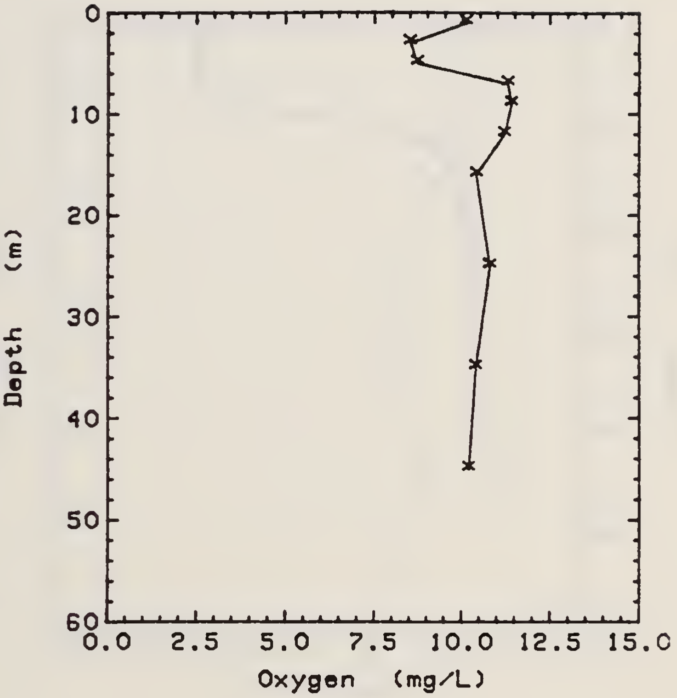

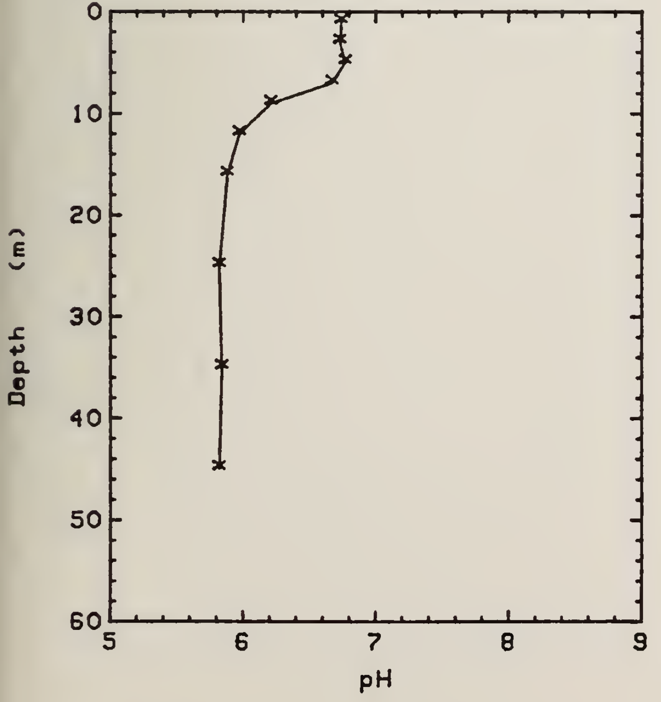

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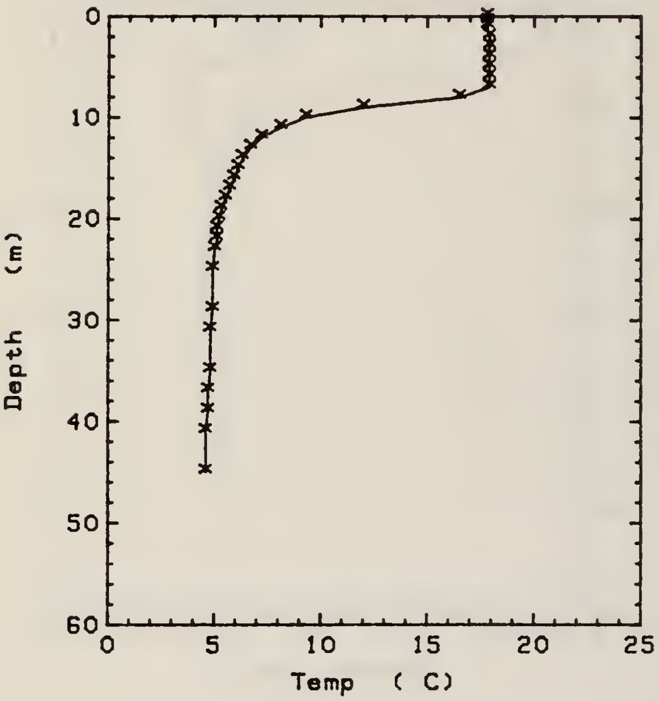

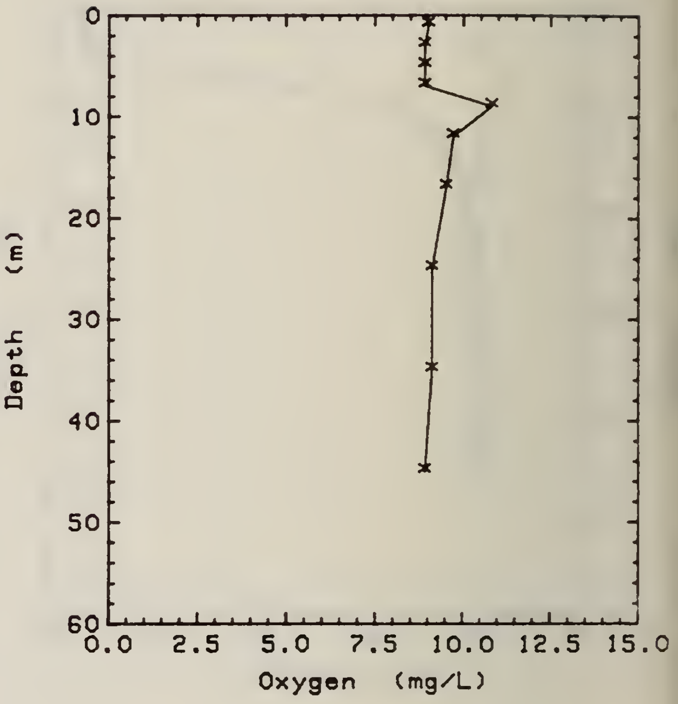

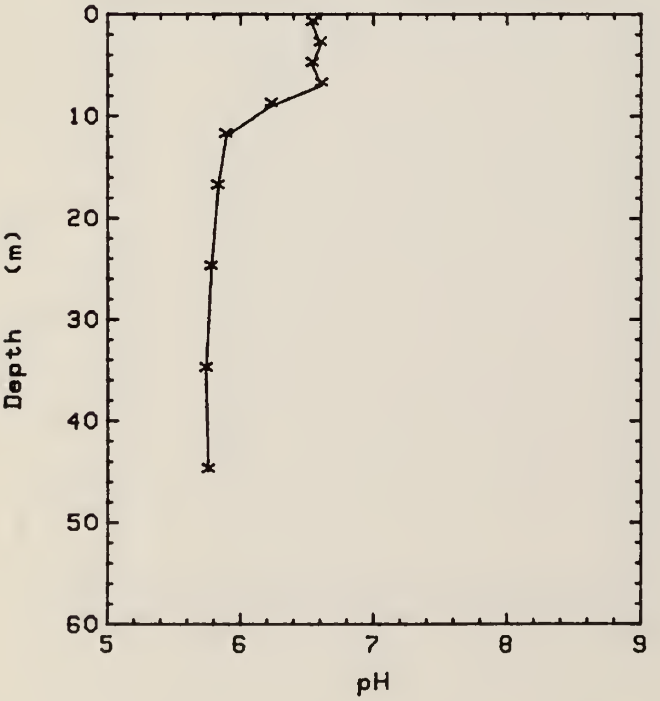

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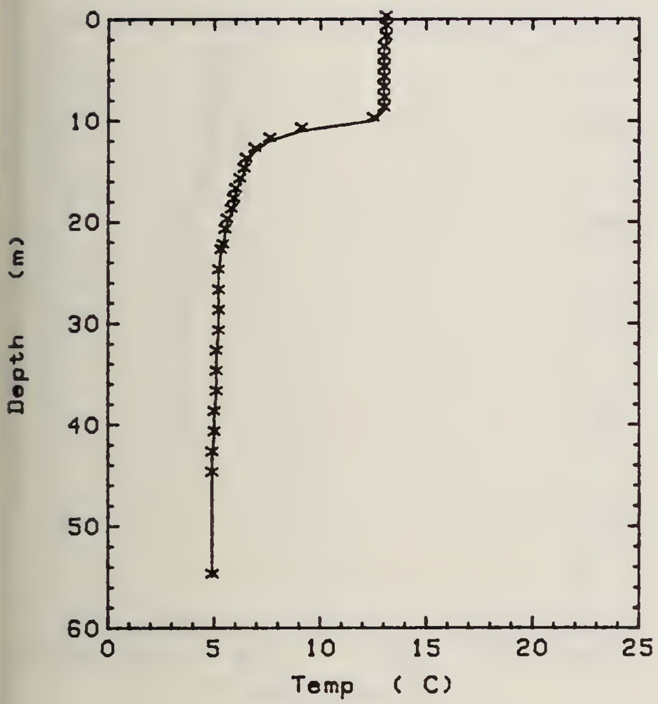

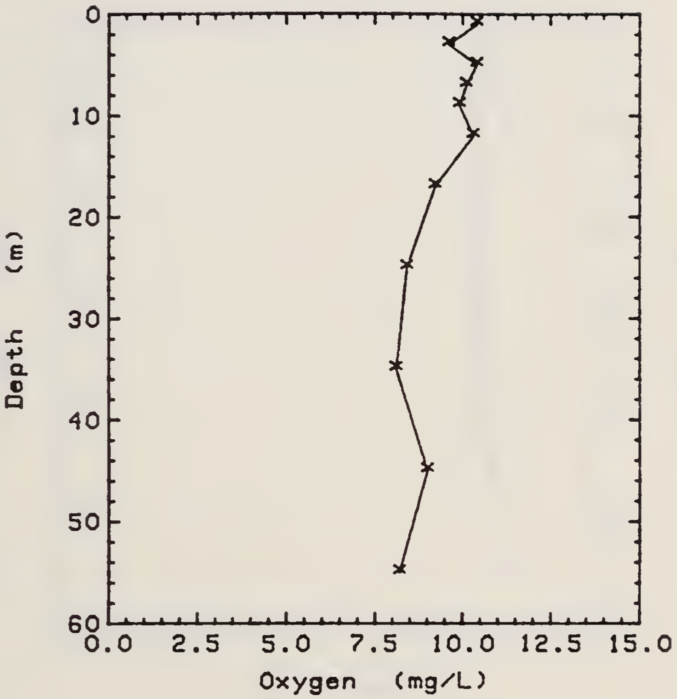

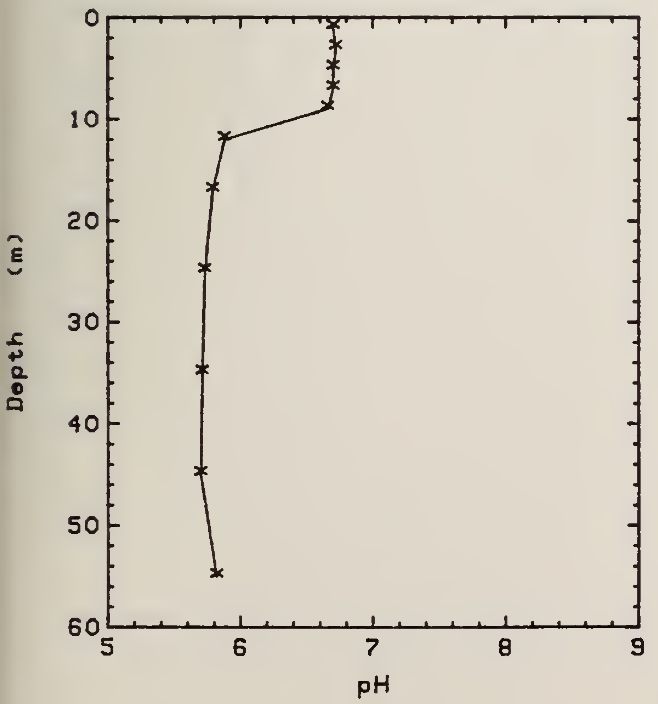

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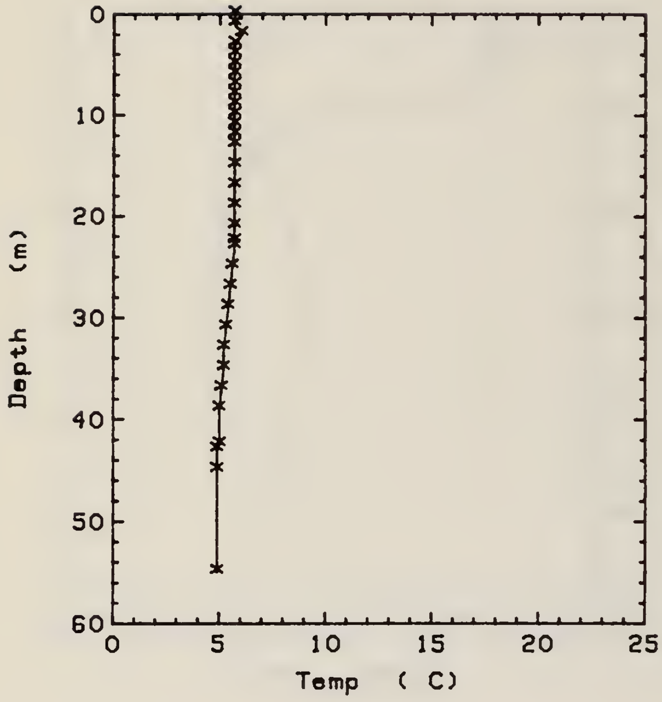

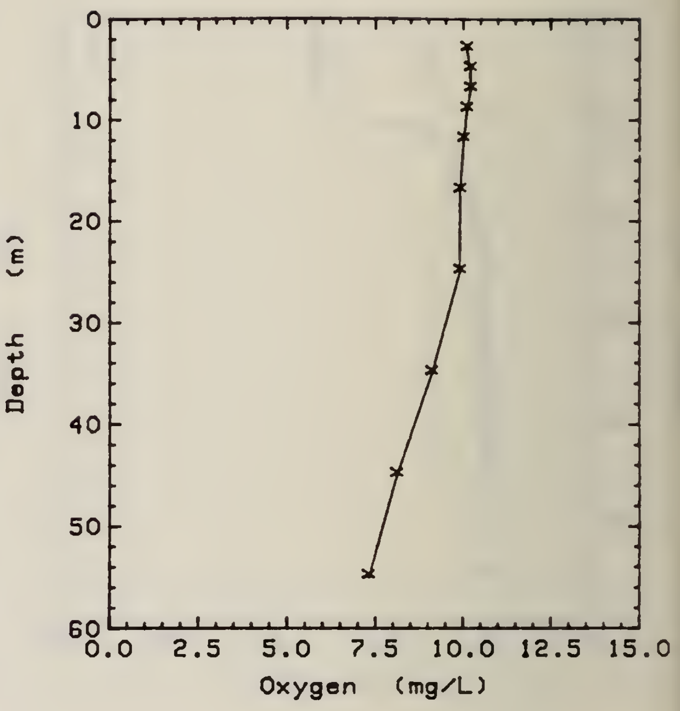

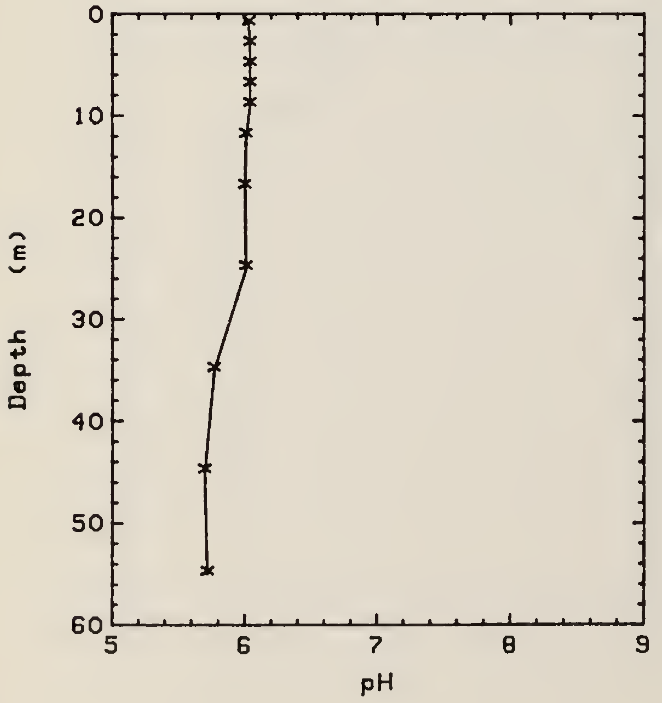

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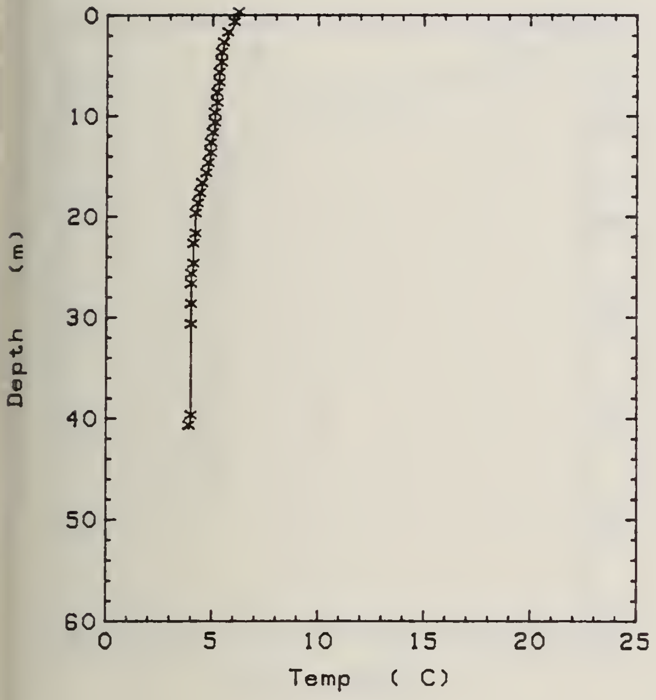

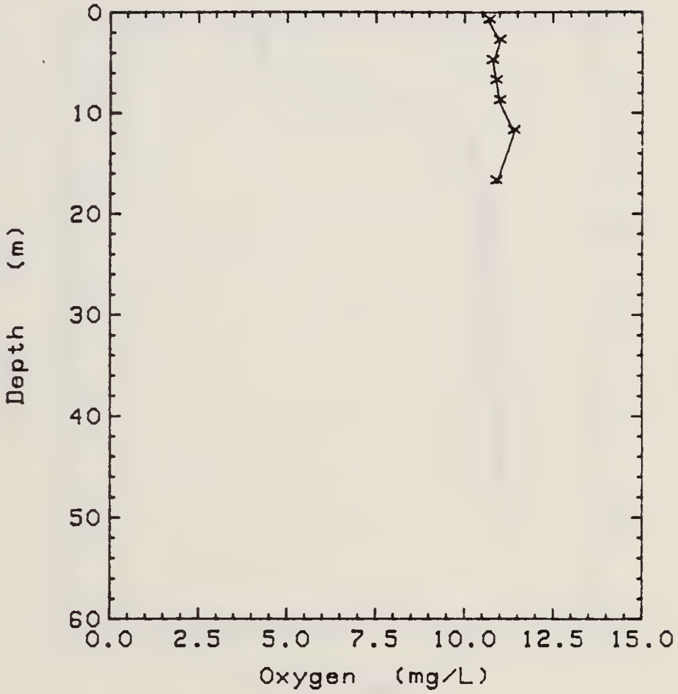

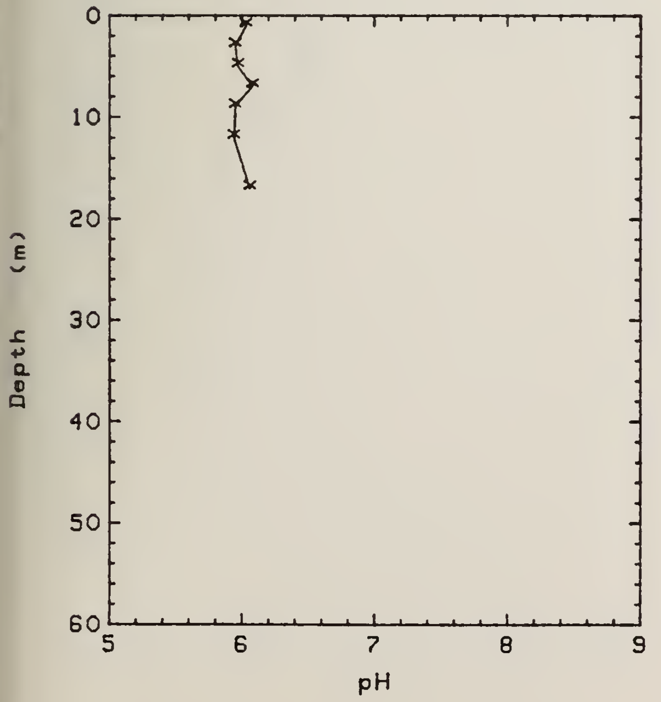

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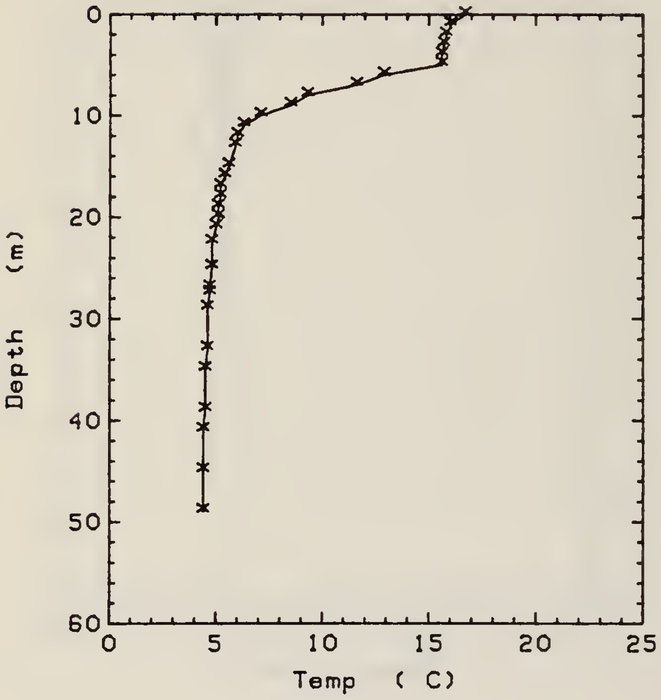

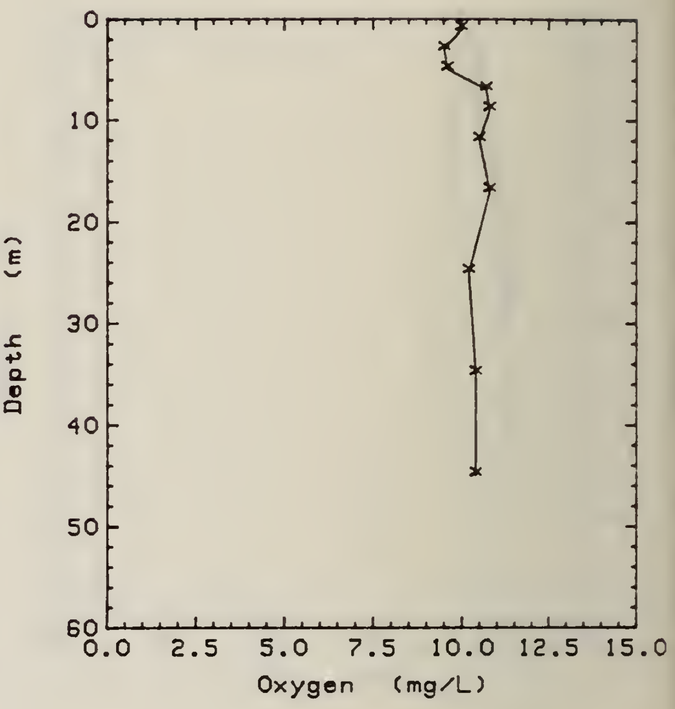

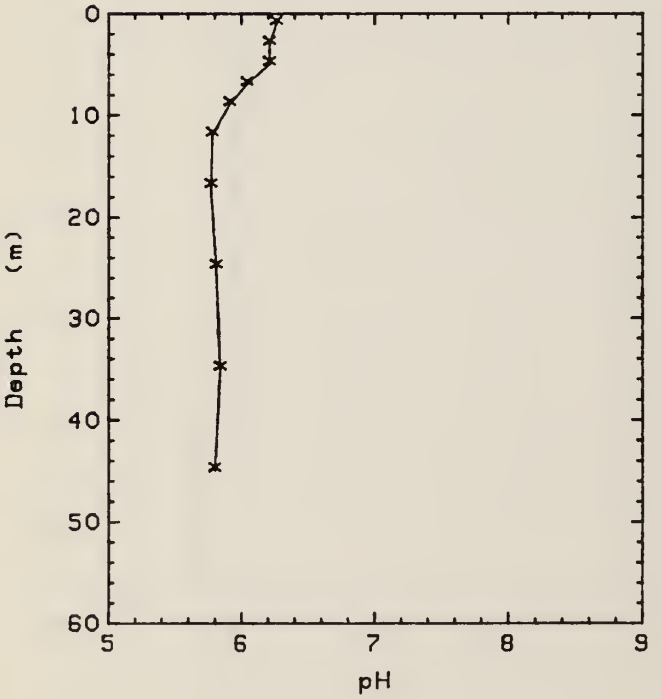

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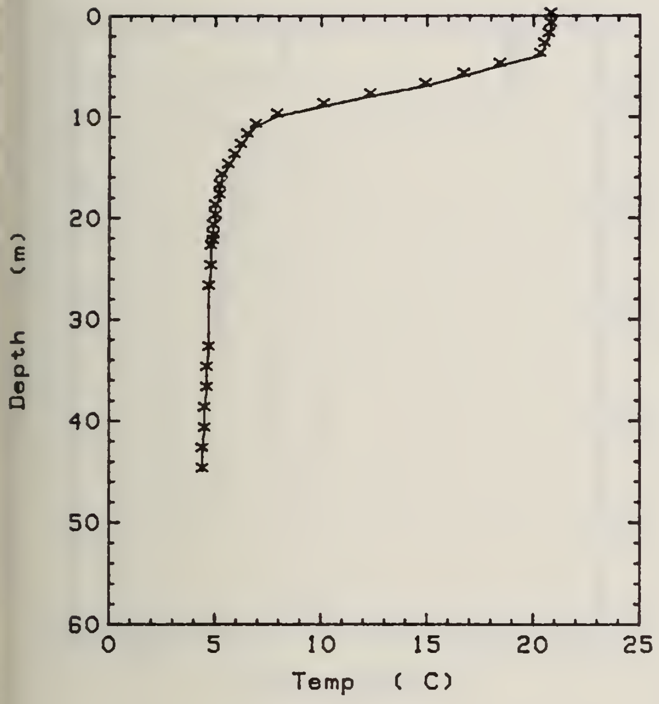

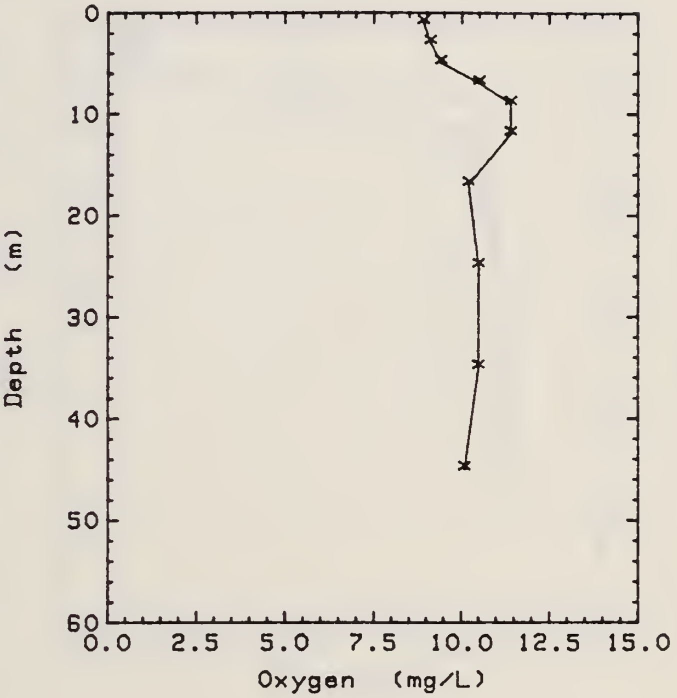

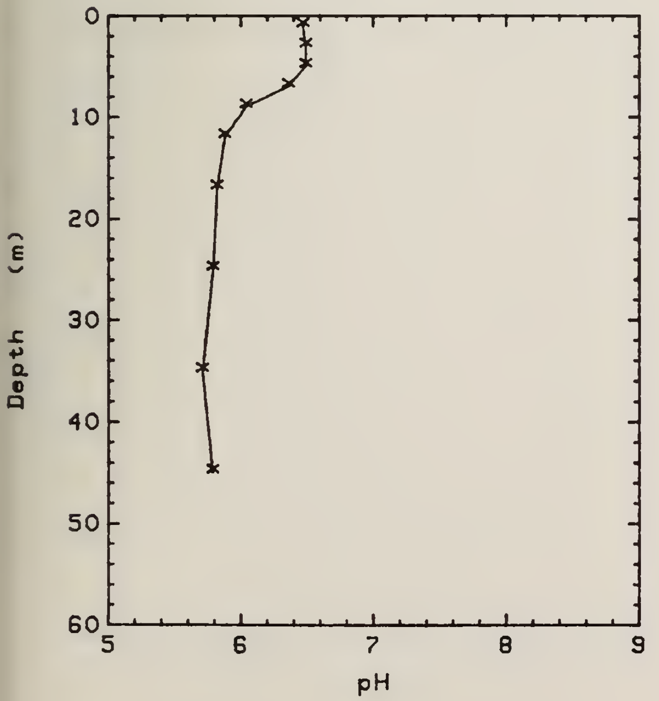

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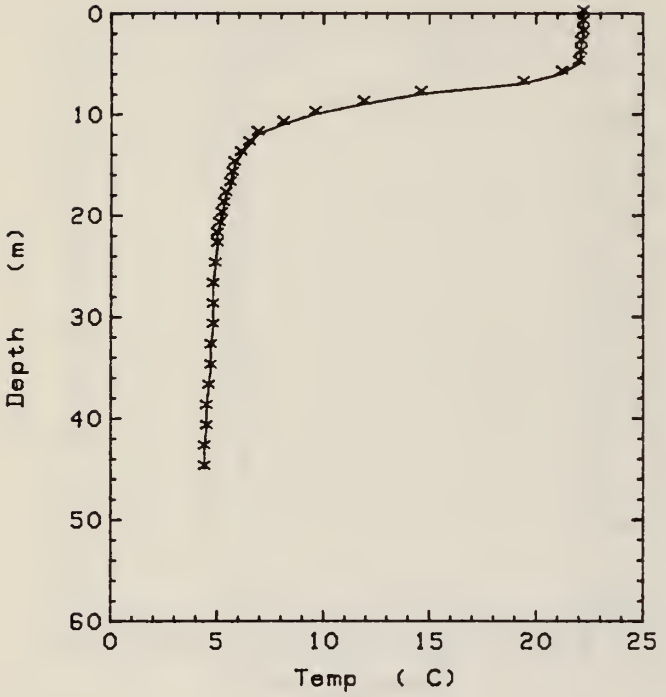

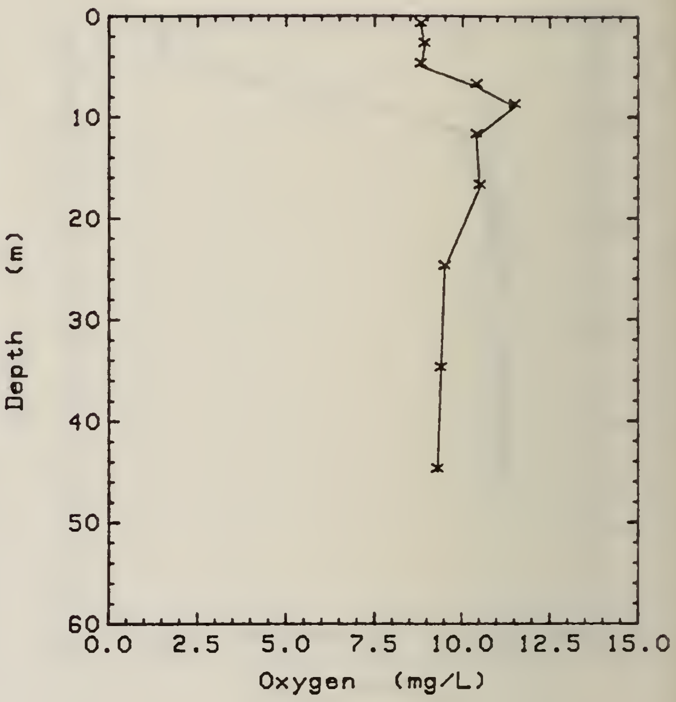

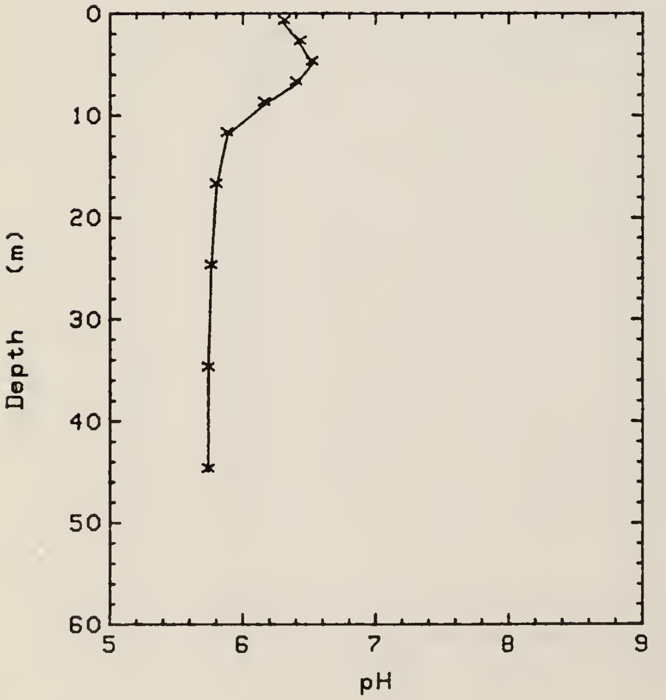

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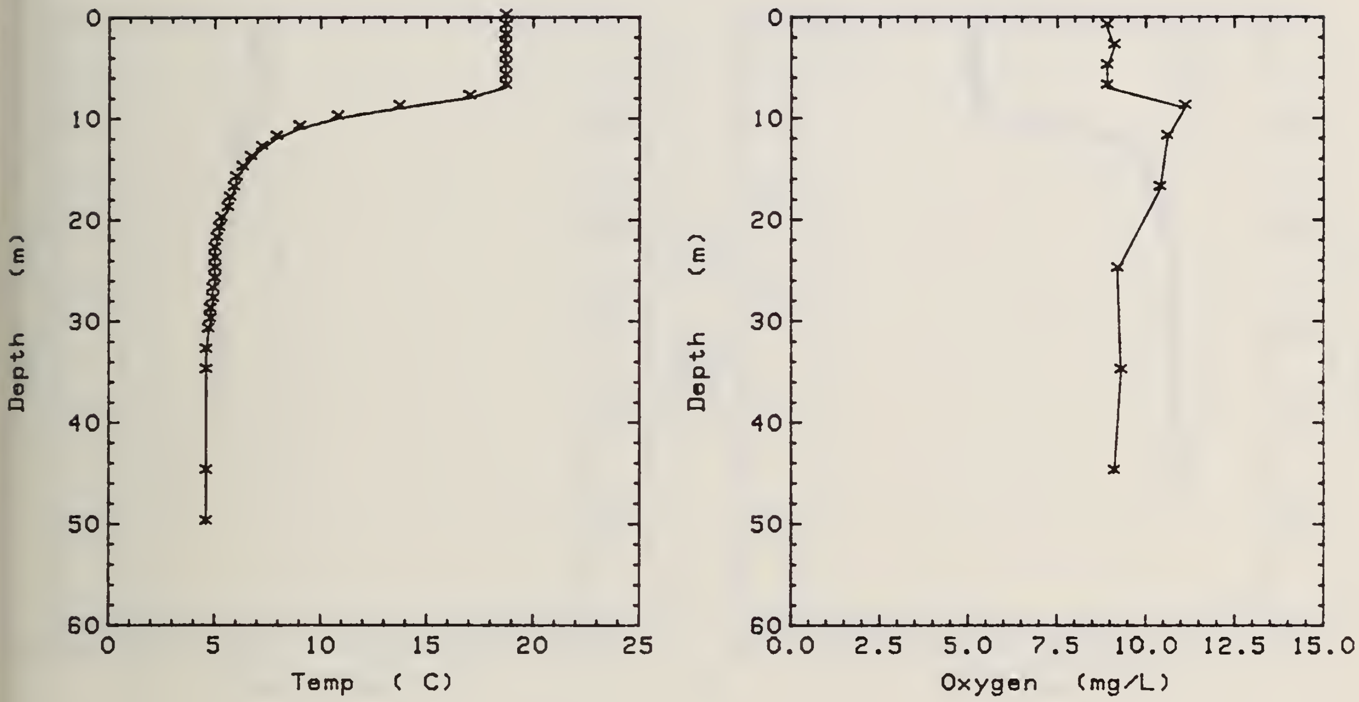

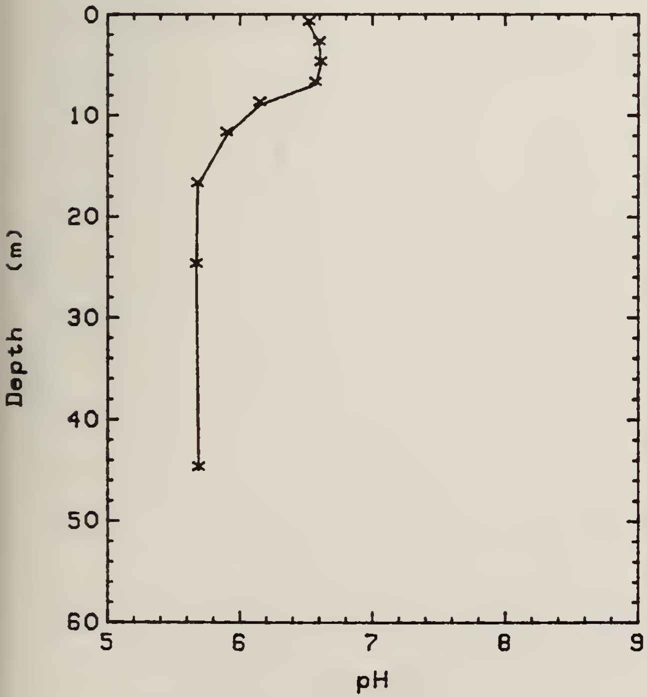

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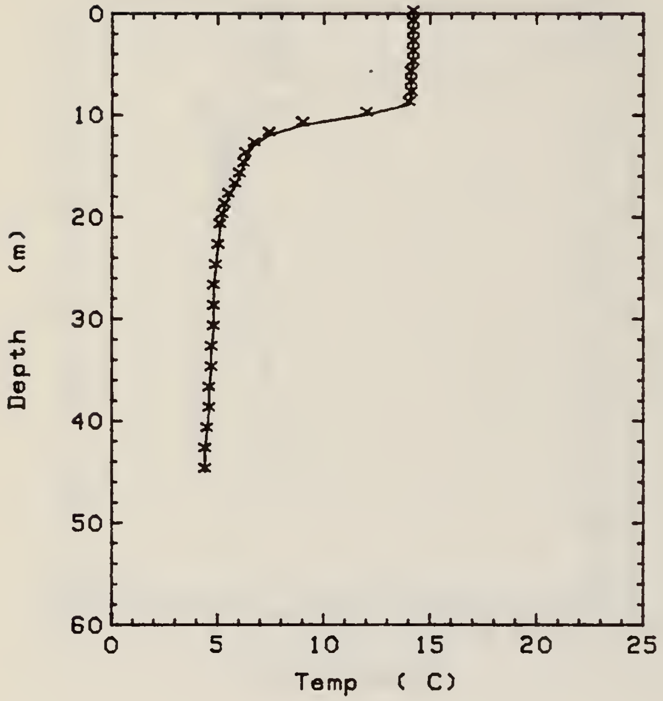
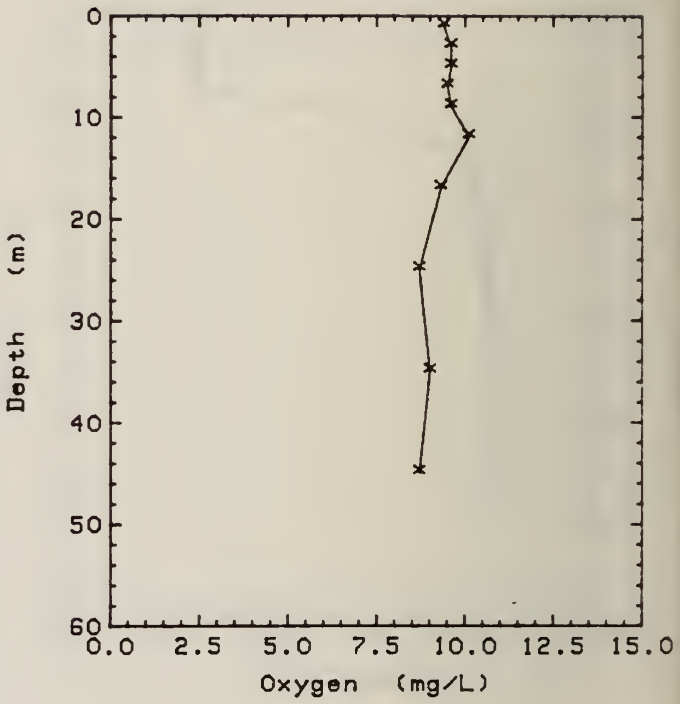
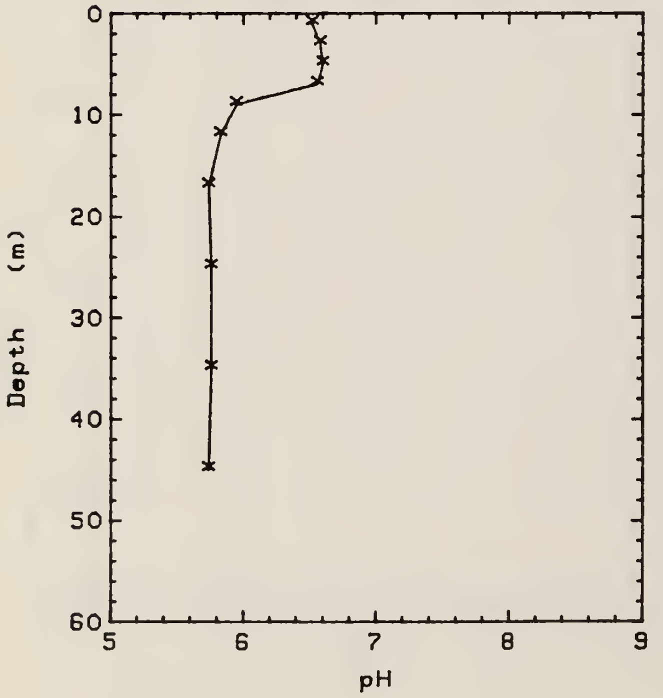
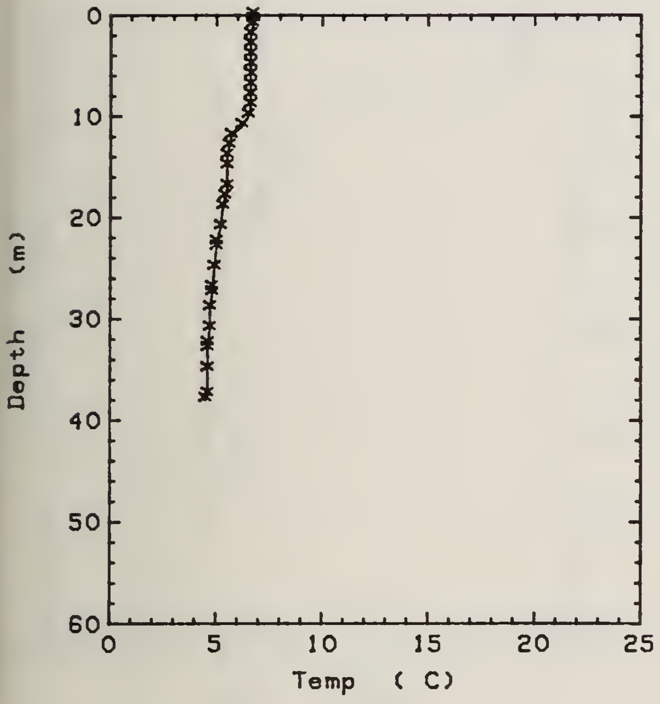
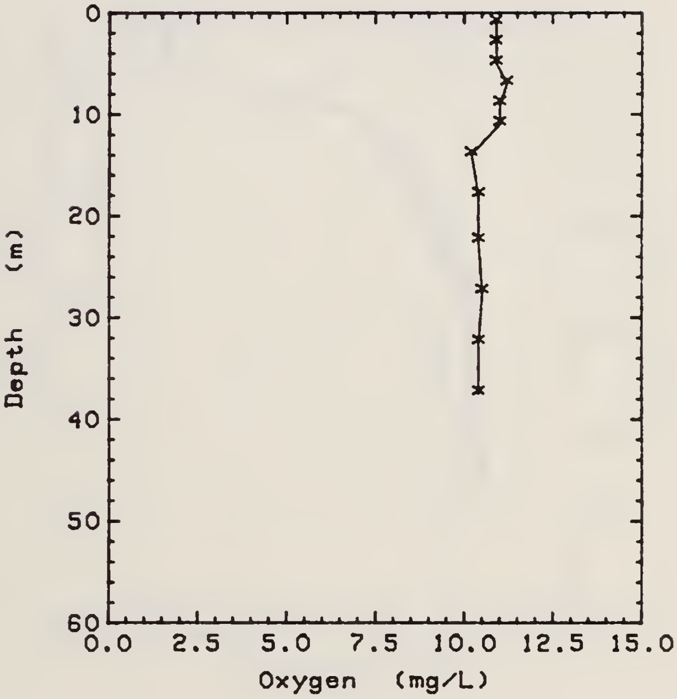


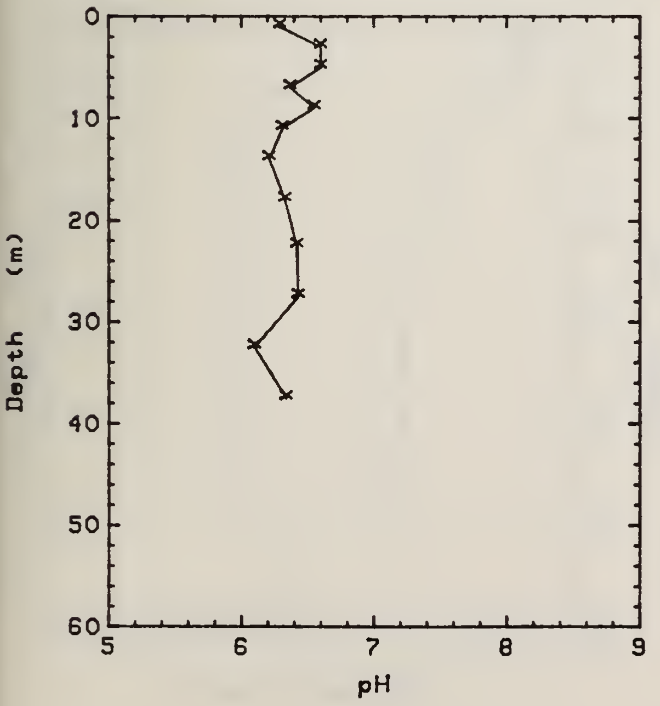


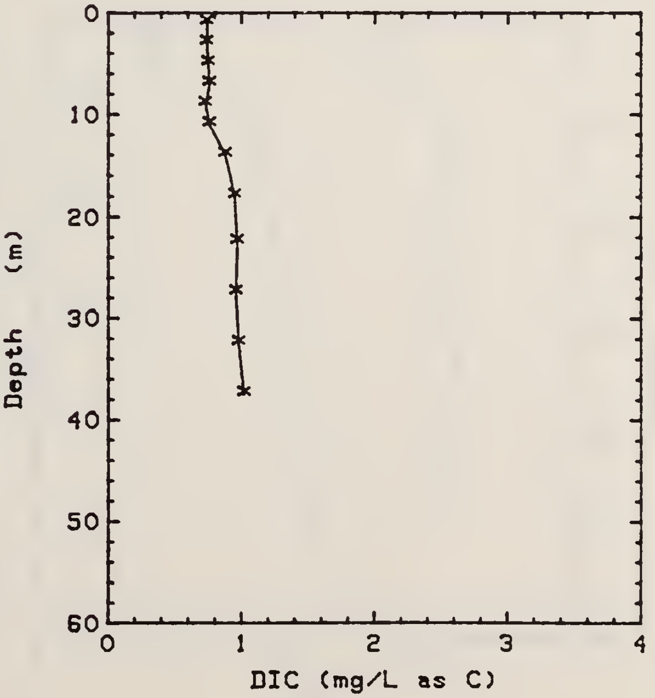


LOUISA 84.05.15









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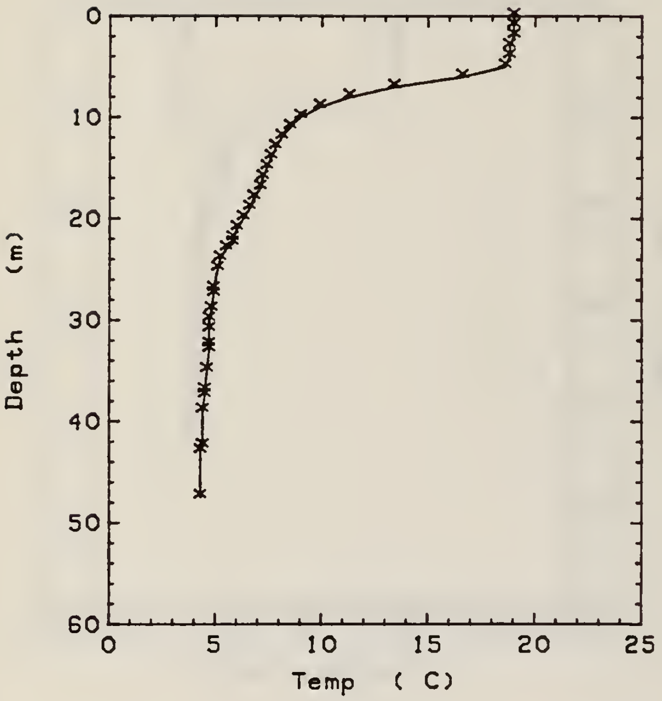

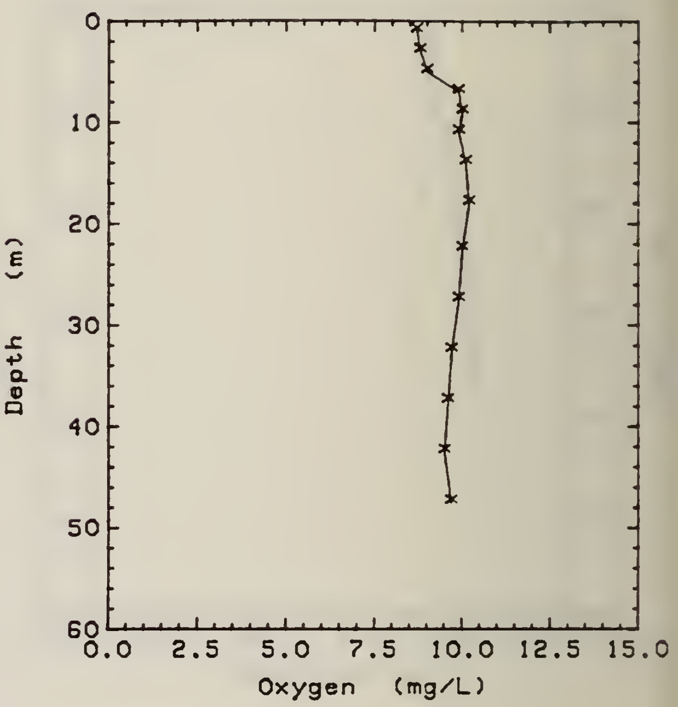

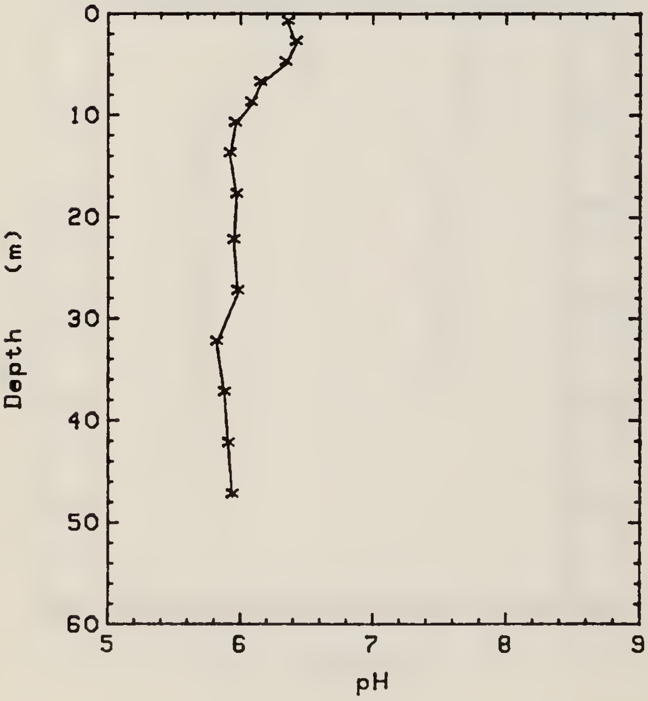

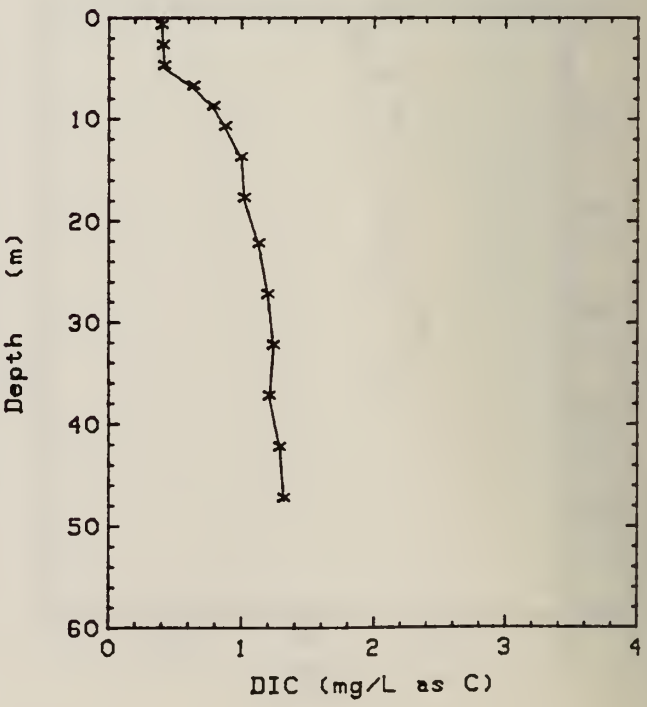

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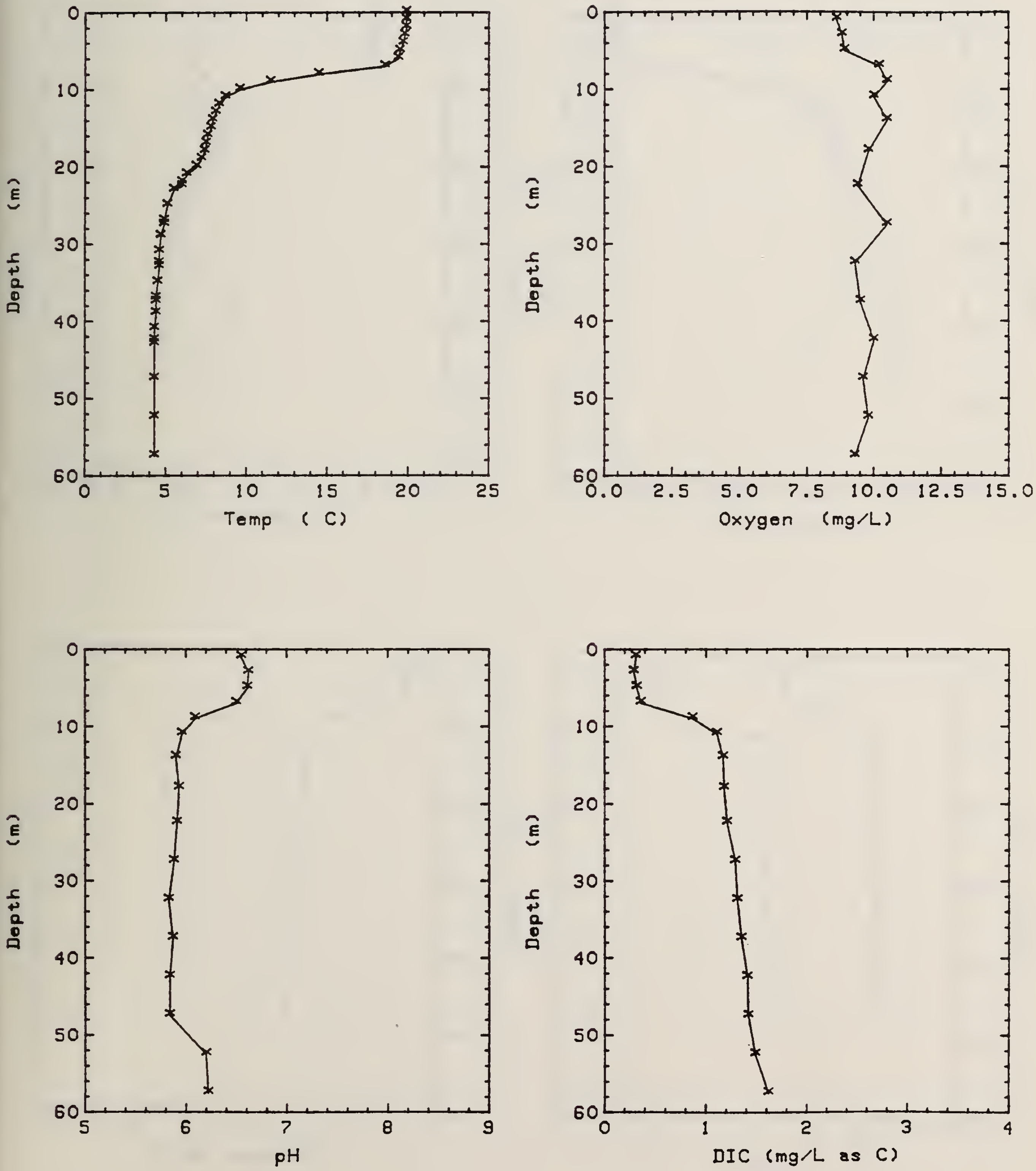
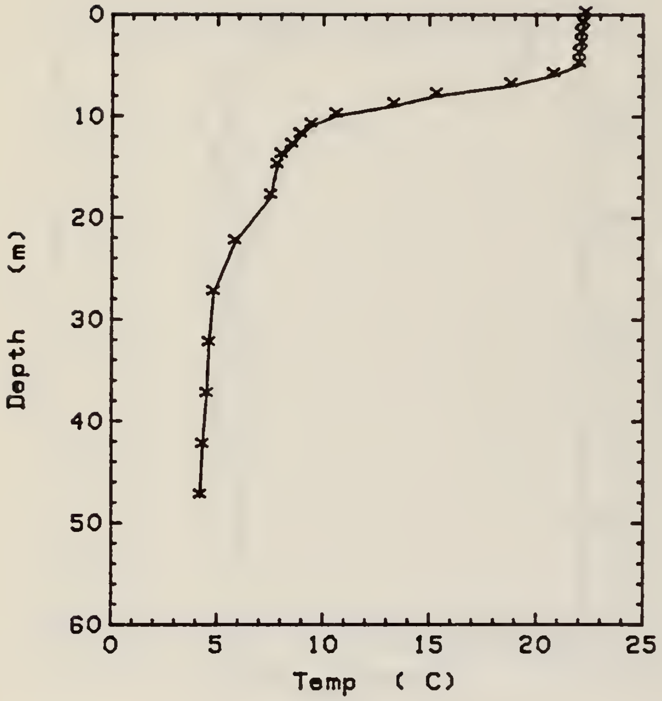
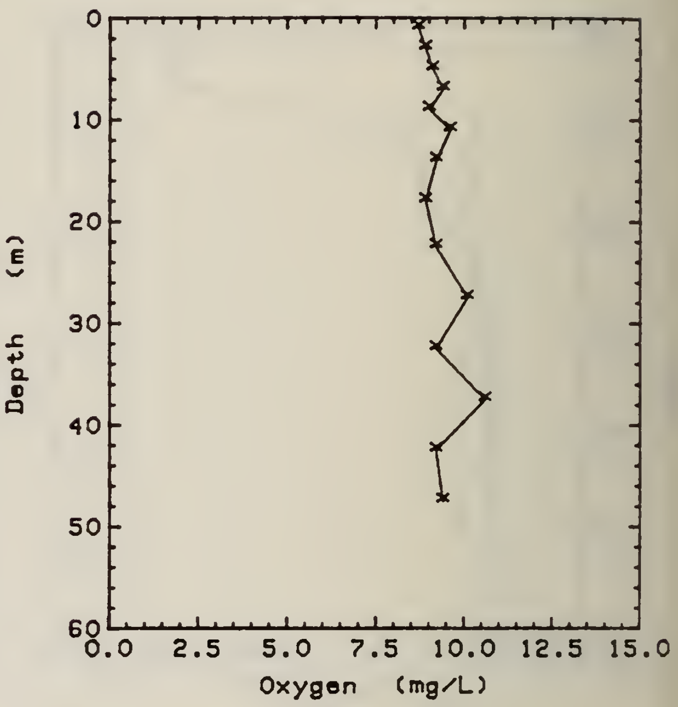
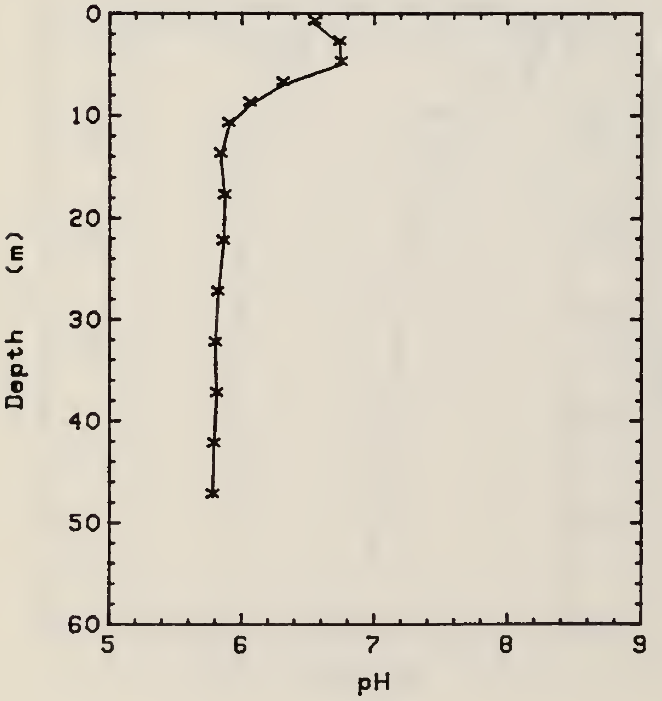
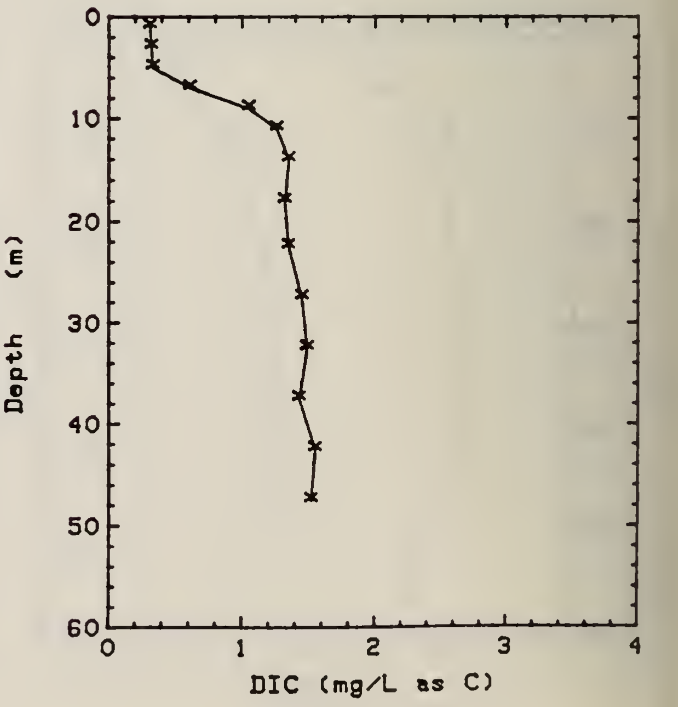


LOUISA 84.08.15

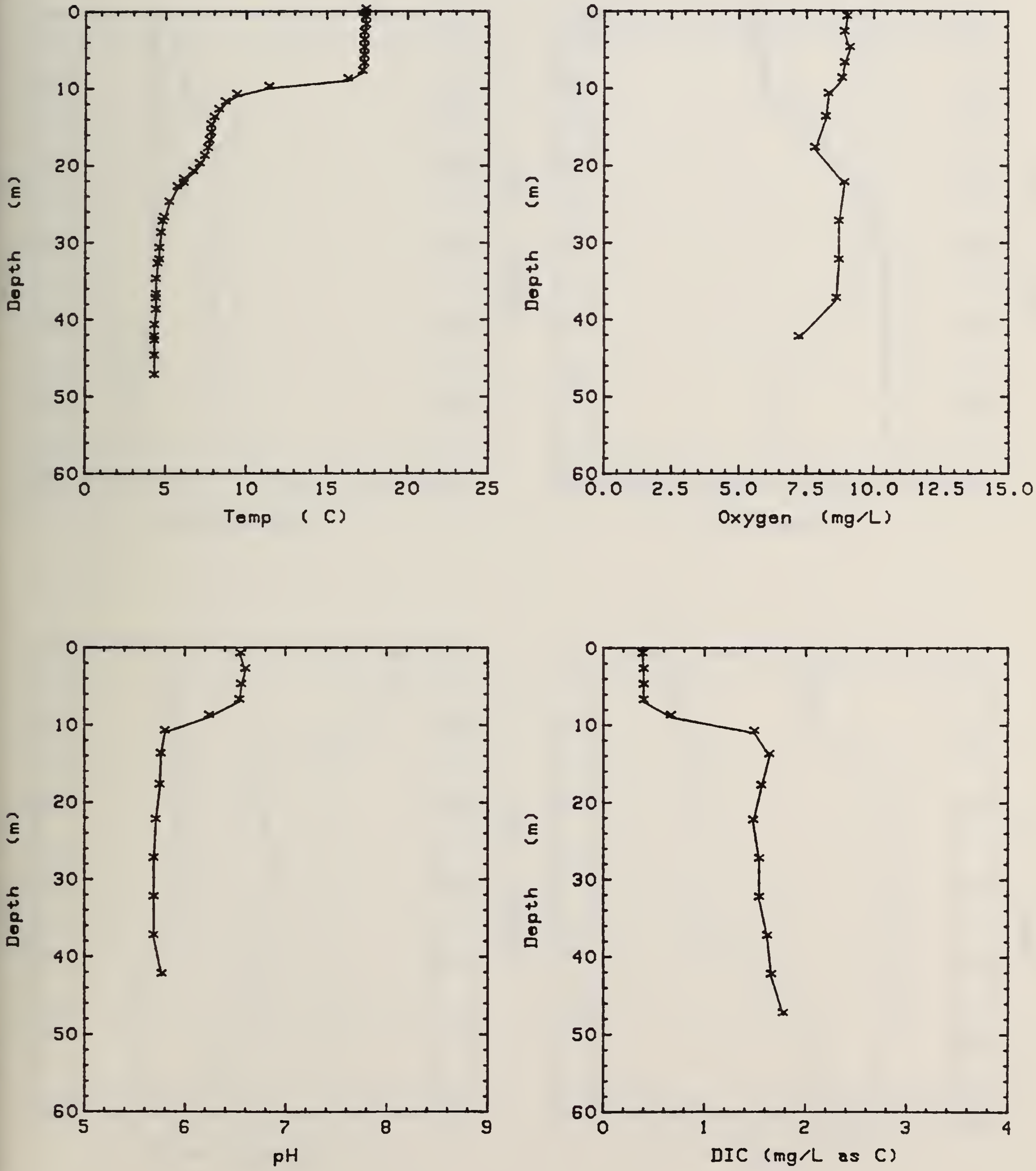




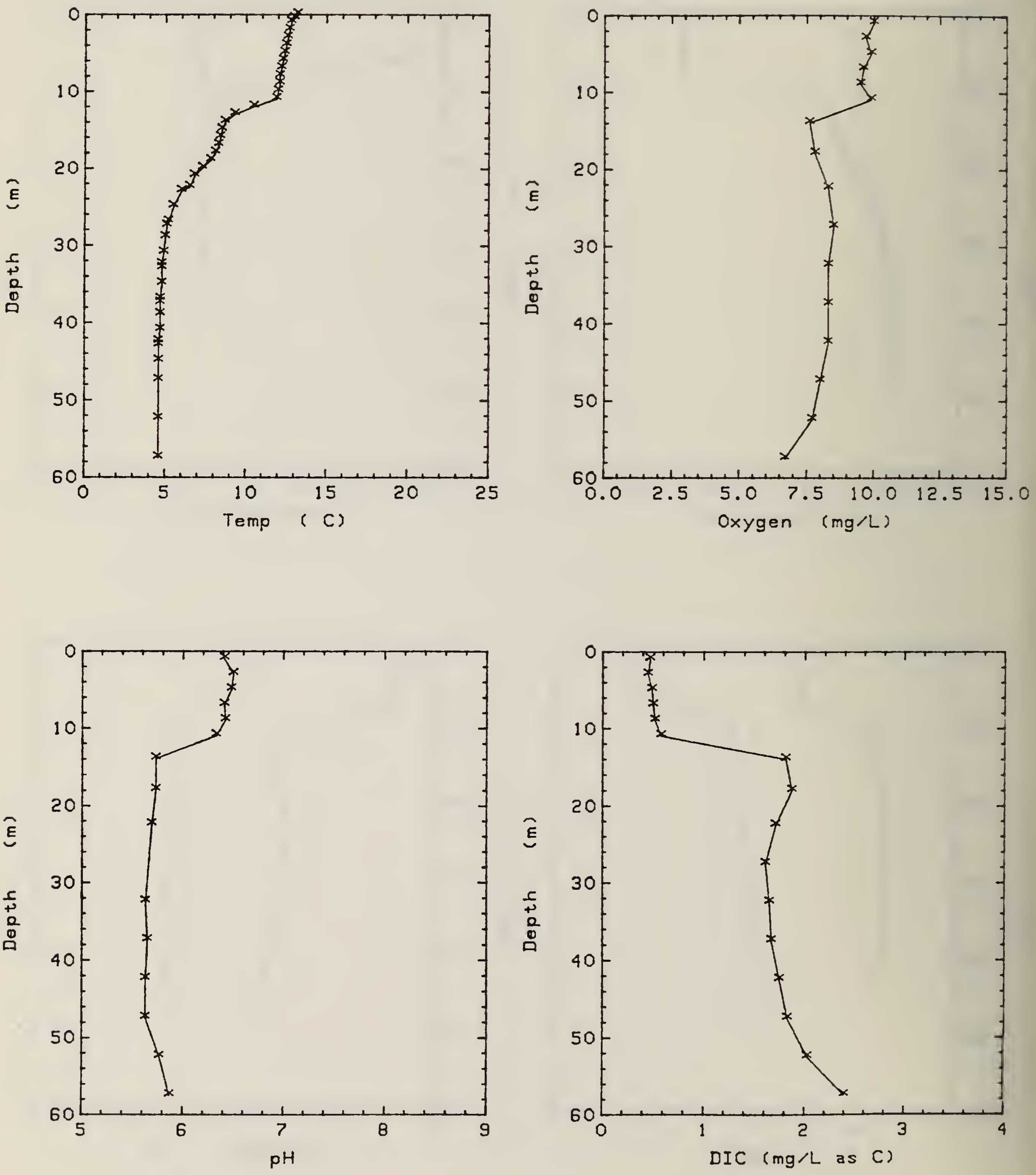




LOUISA 84.09.12



LAKE LOUISA 84.10.11



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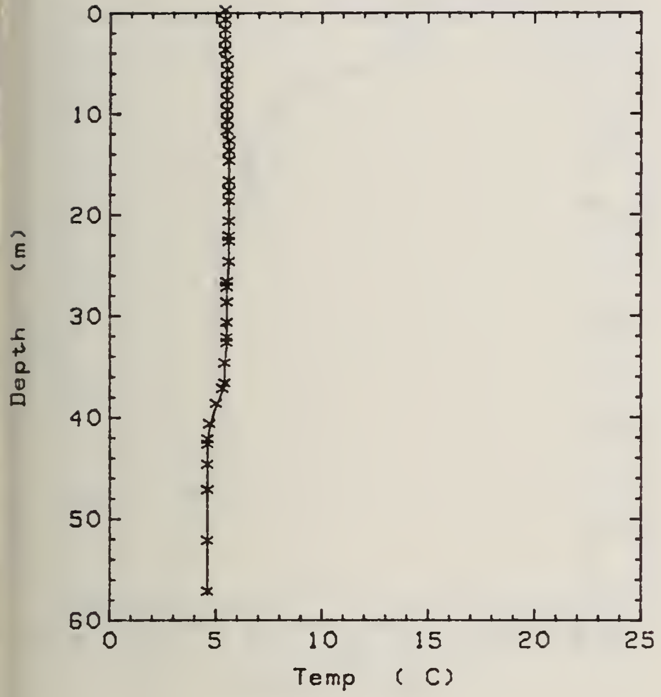

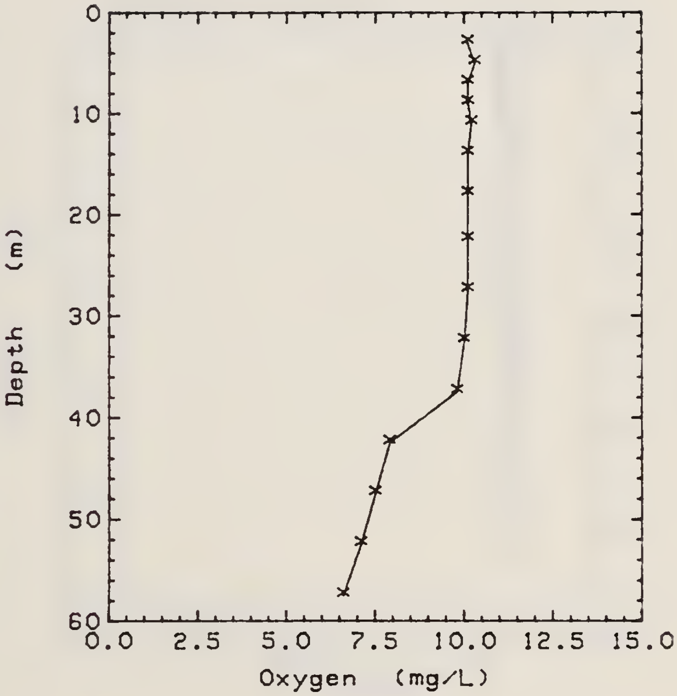

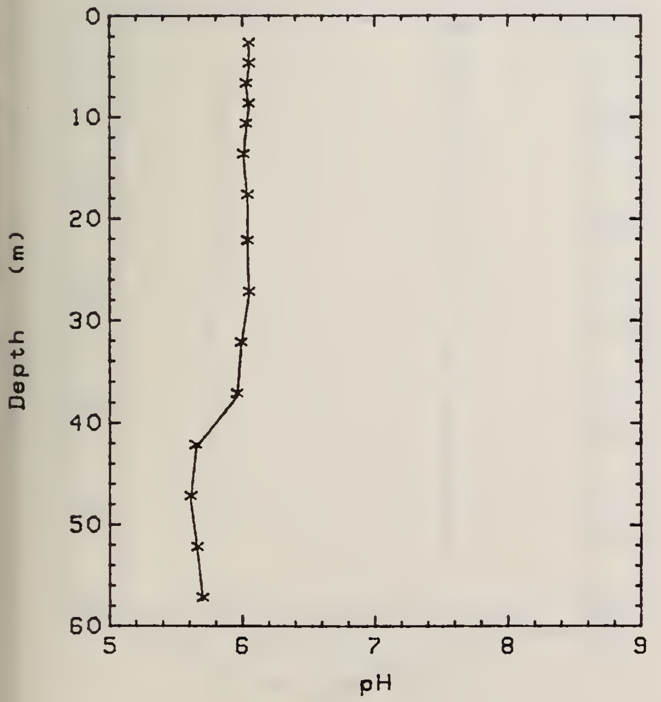

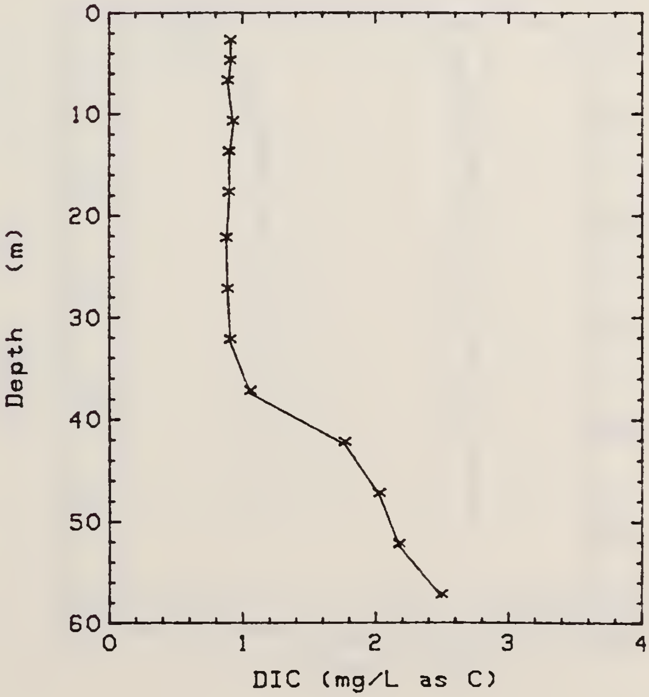

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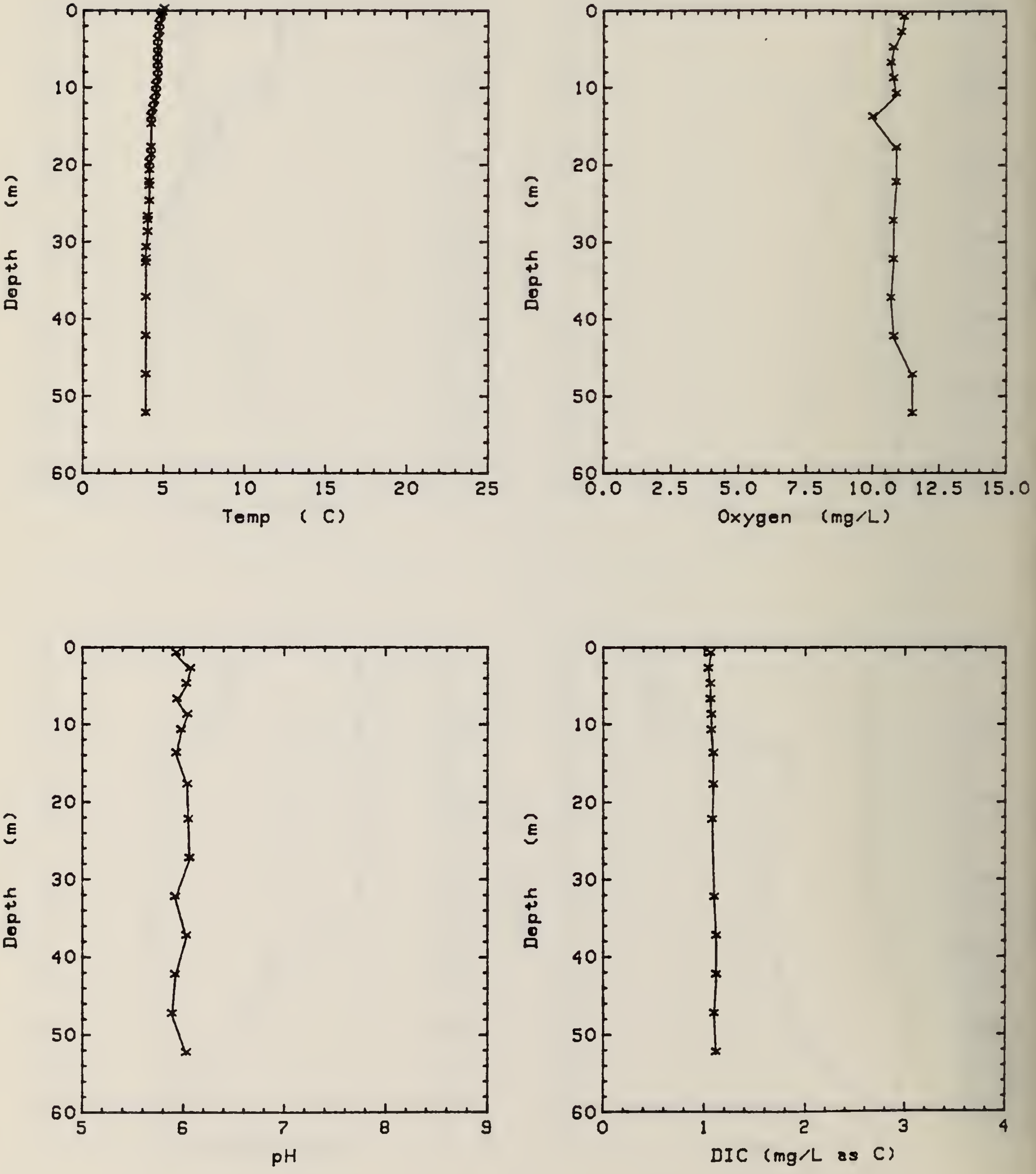

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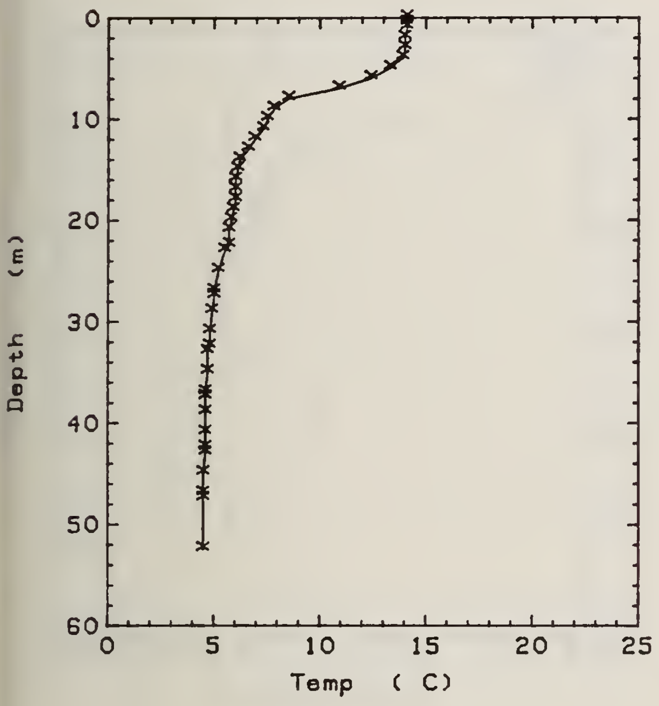

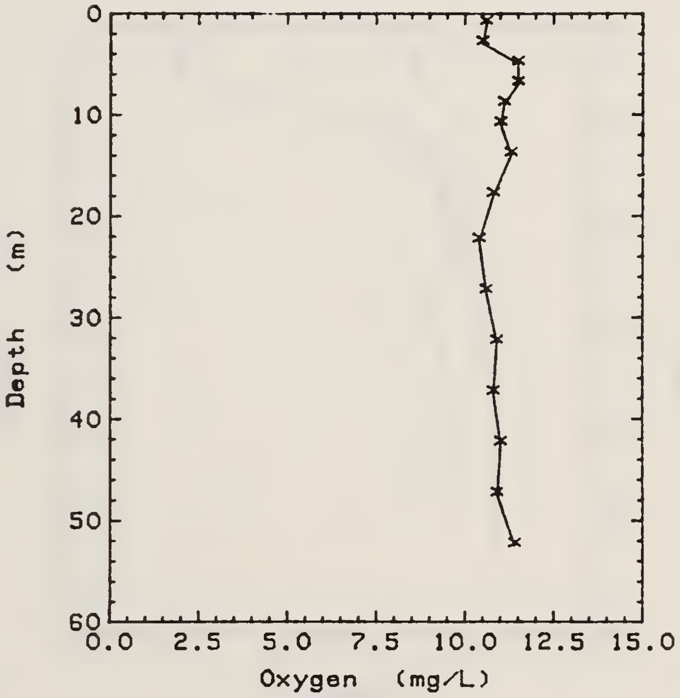

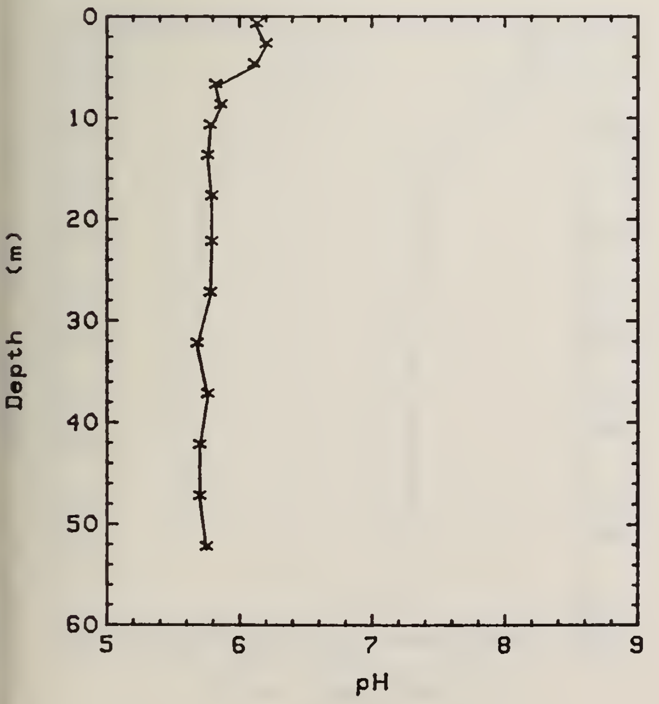

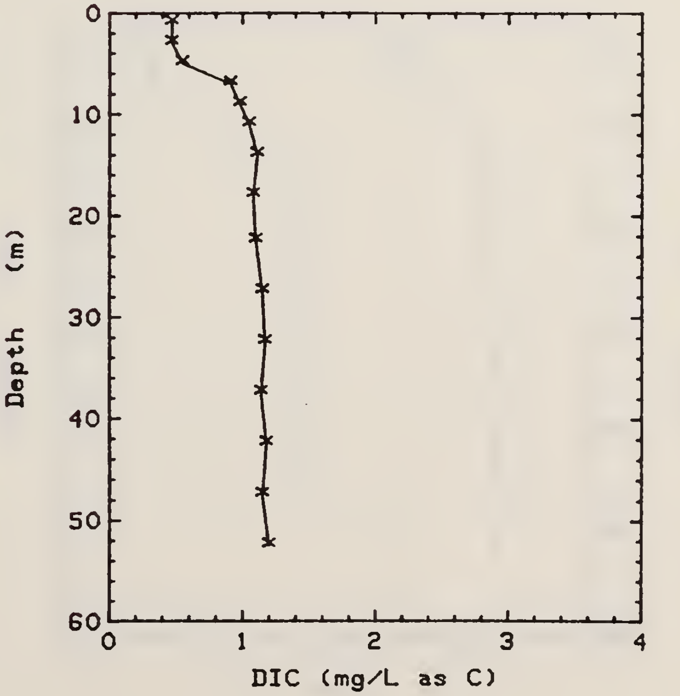

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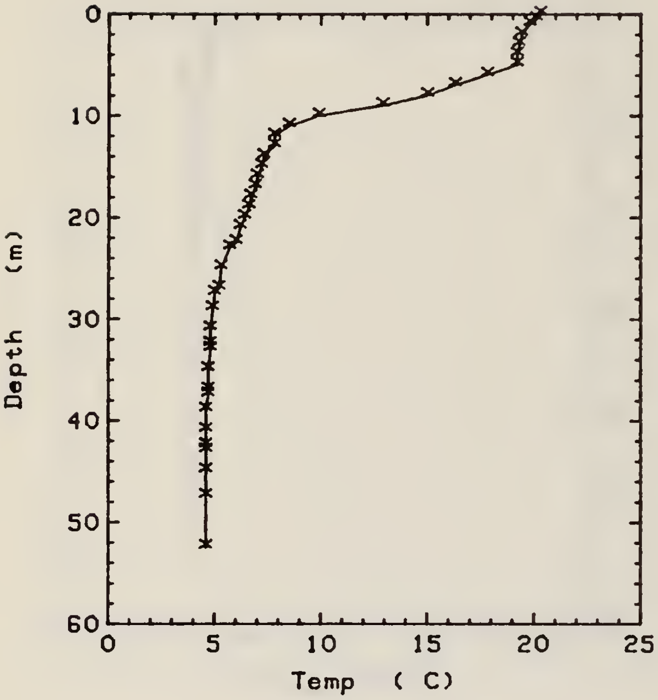

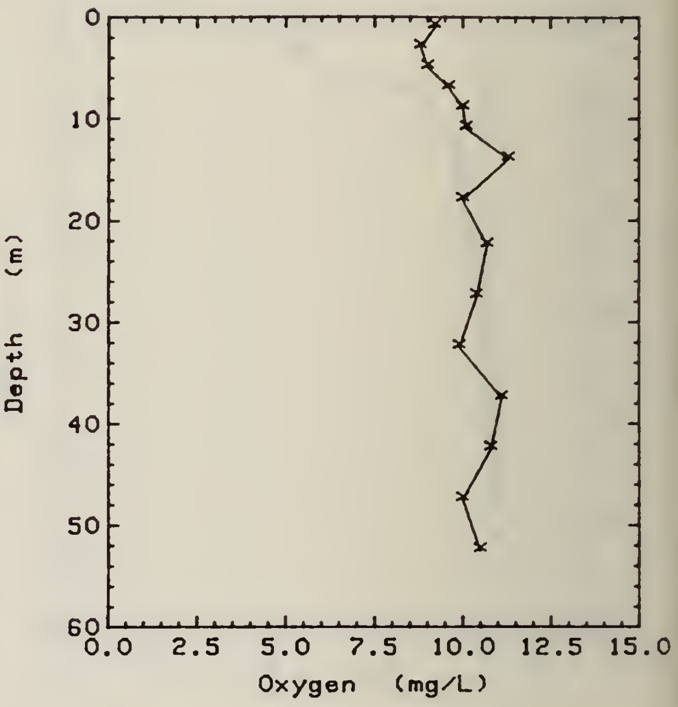

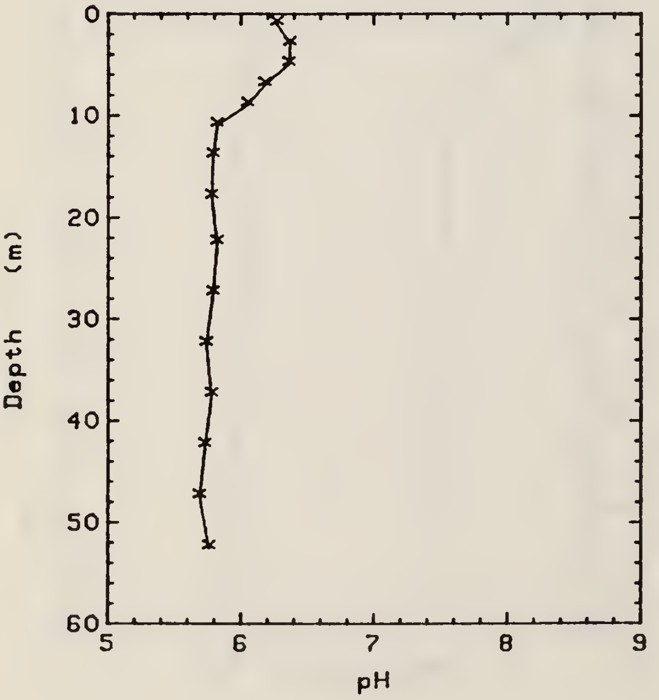

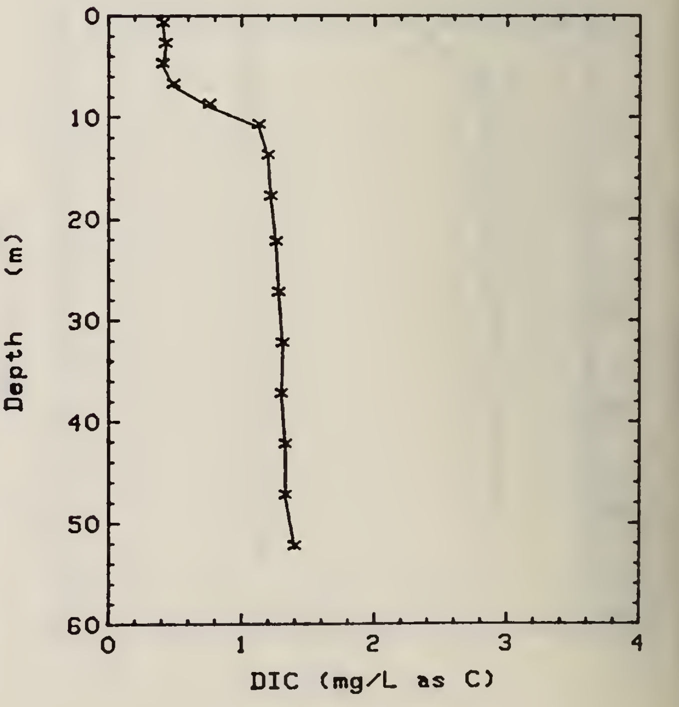

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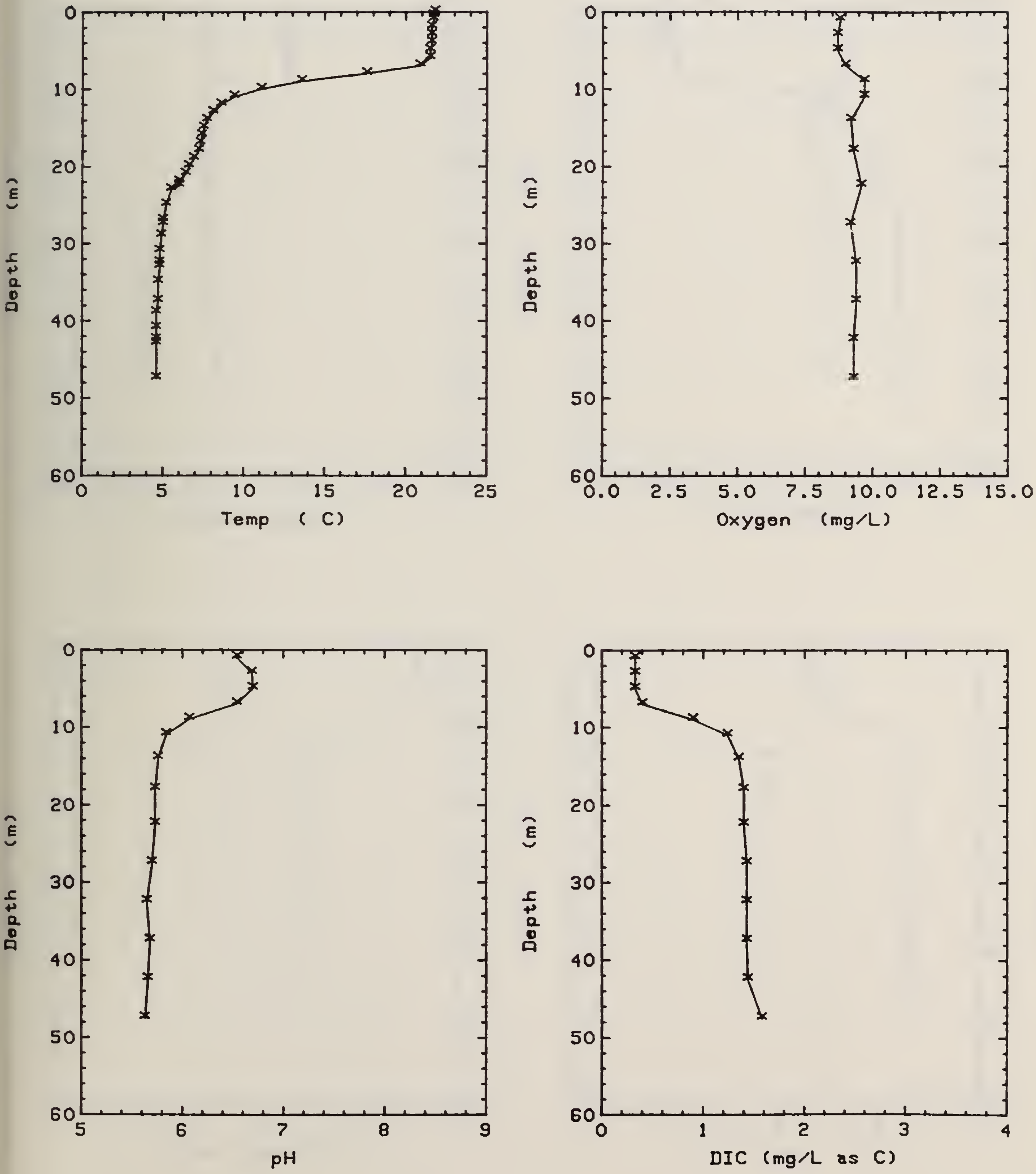

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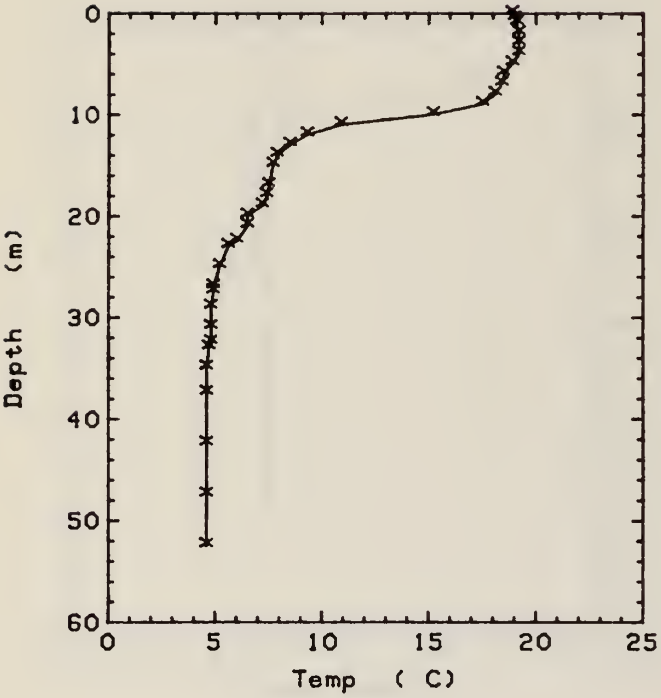

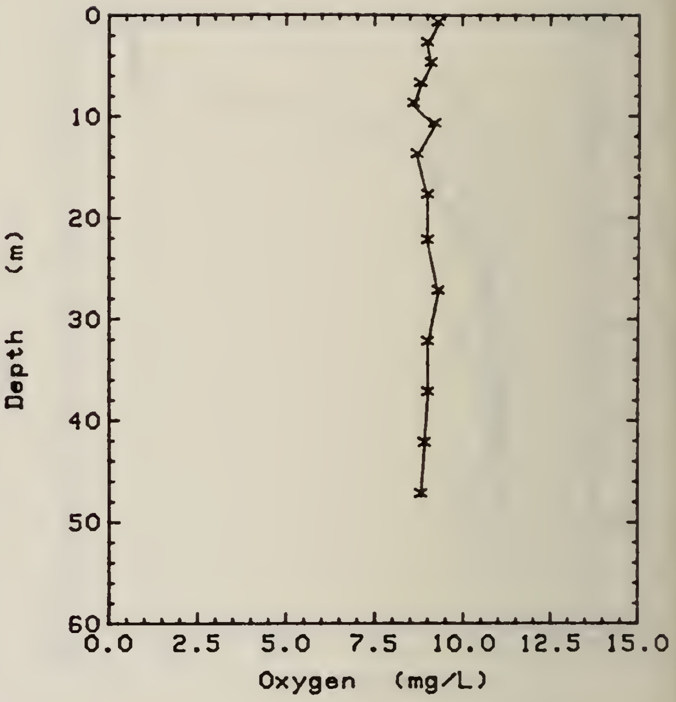

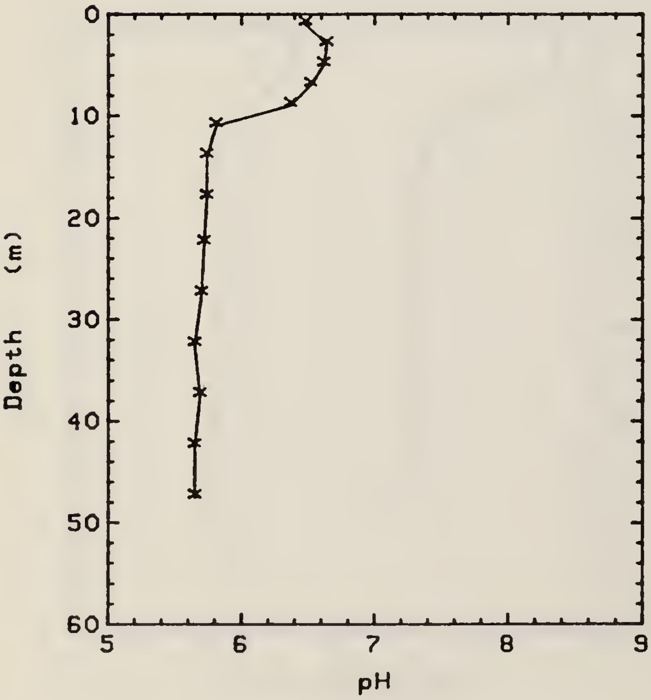

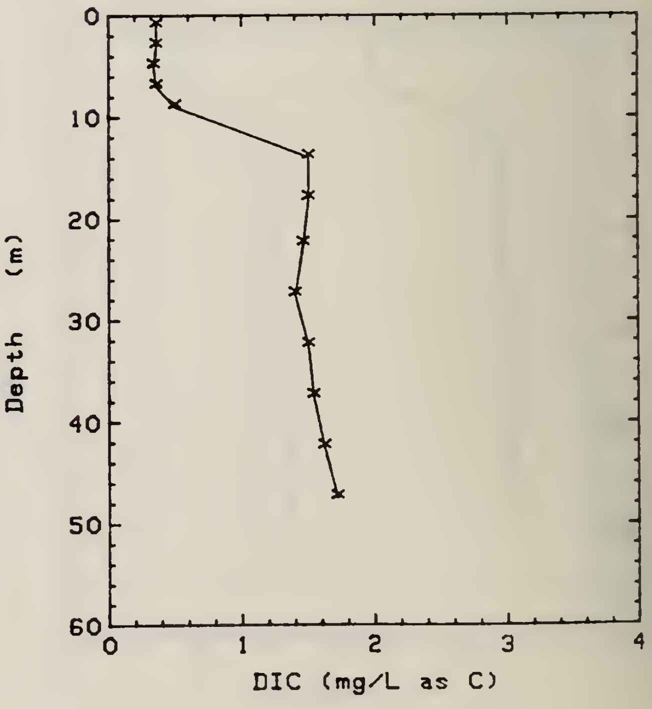

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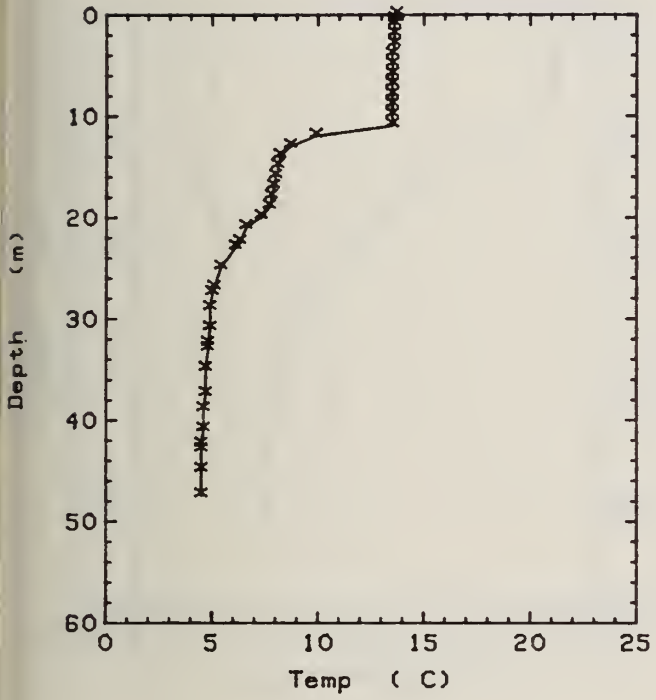

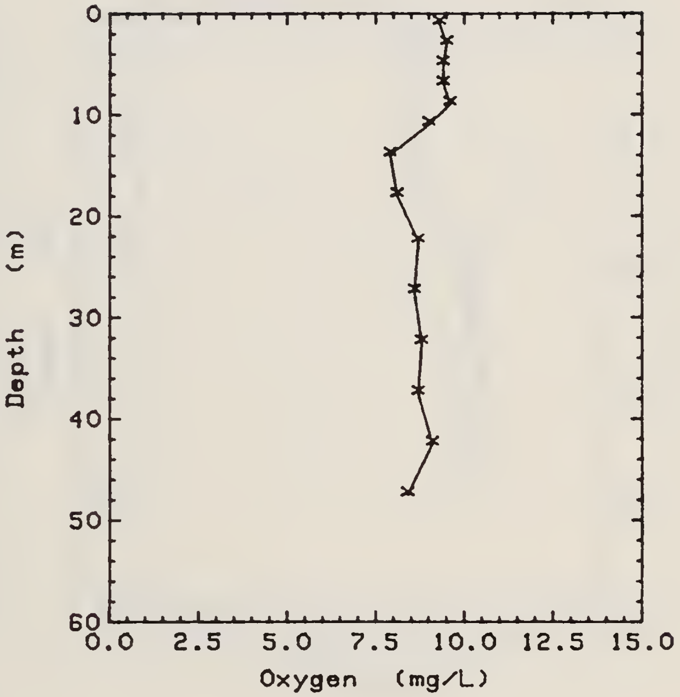

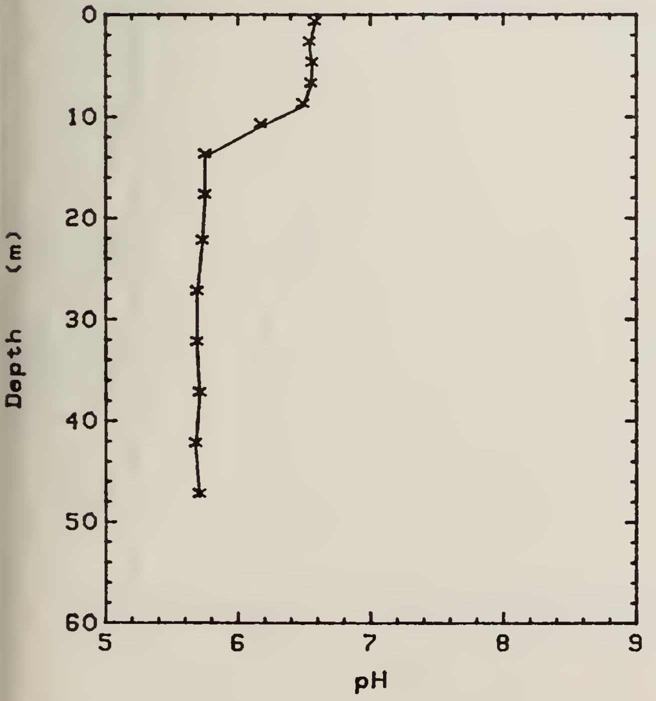

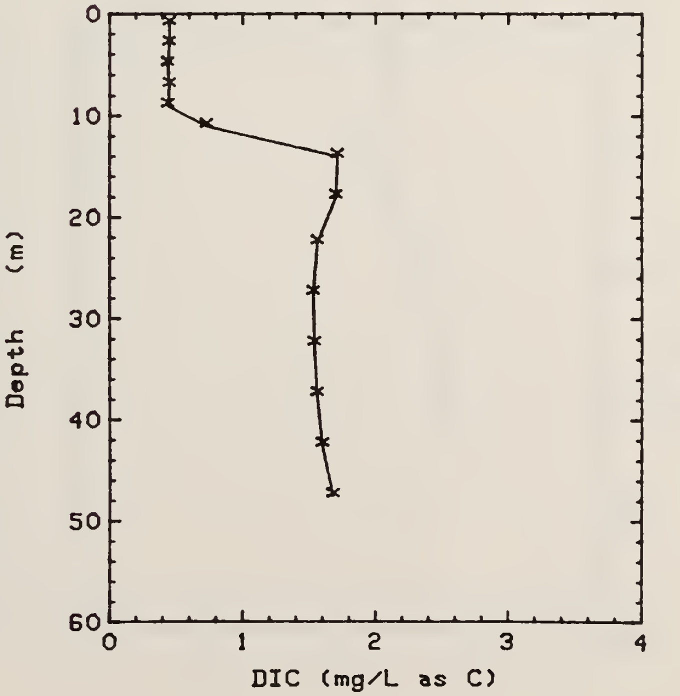

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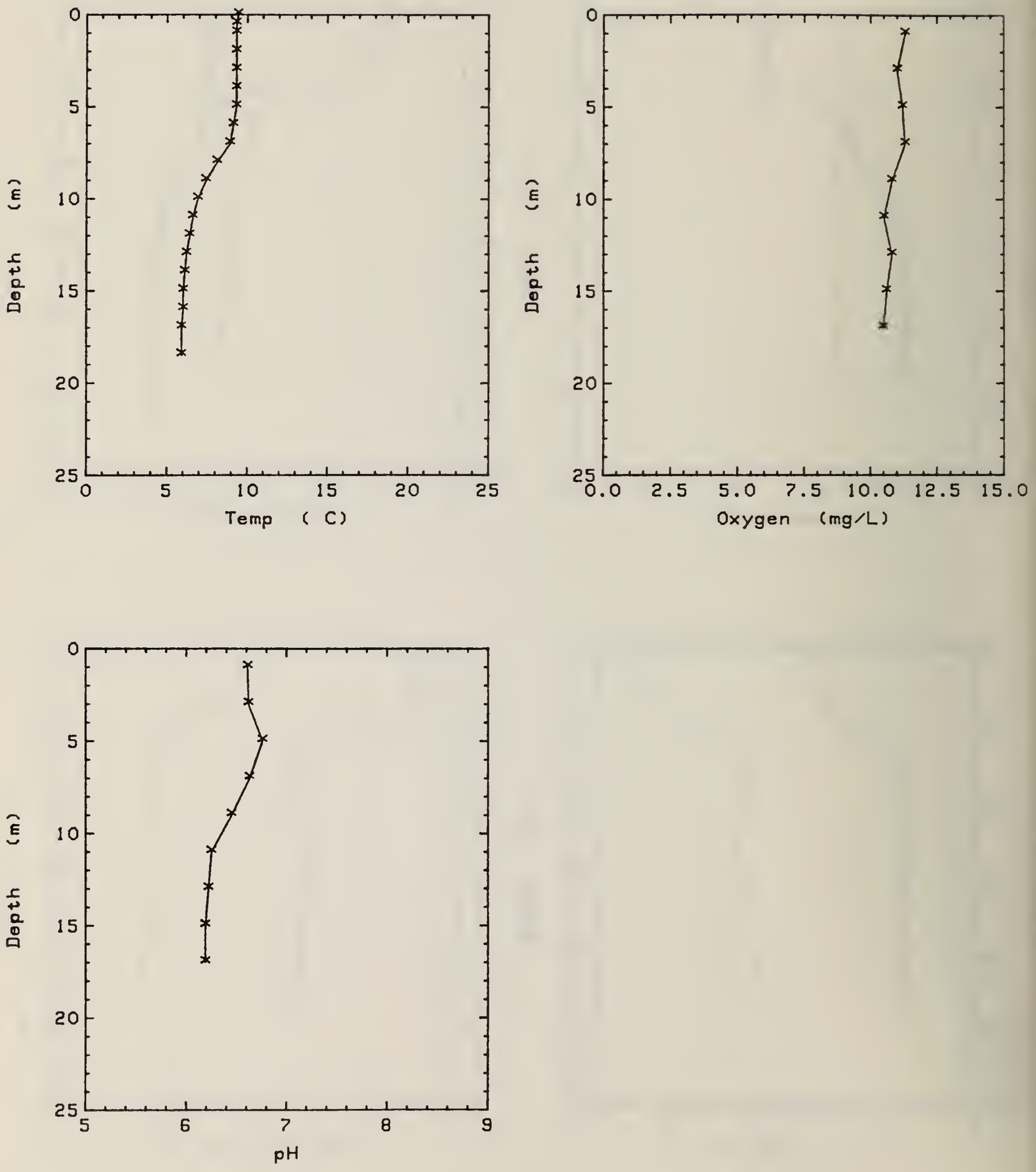

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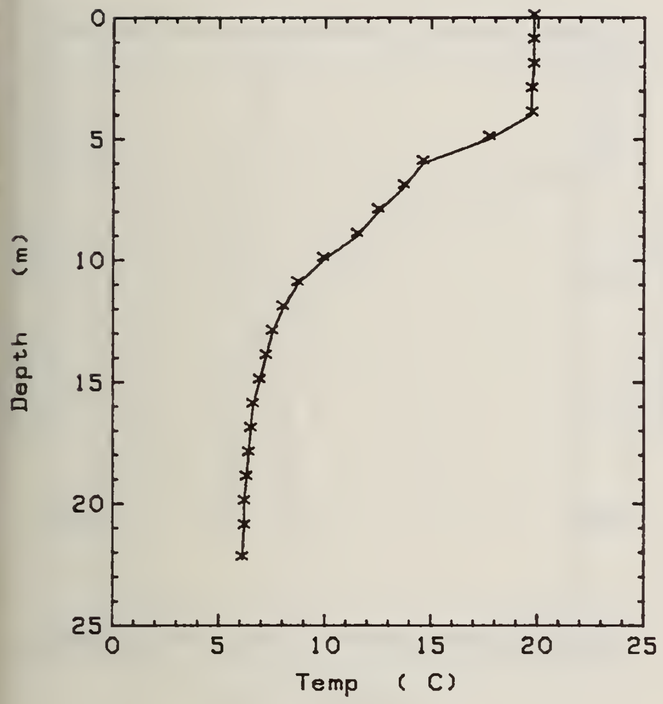

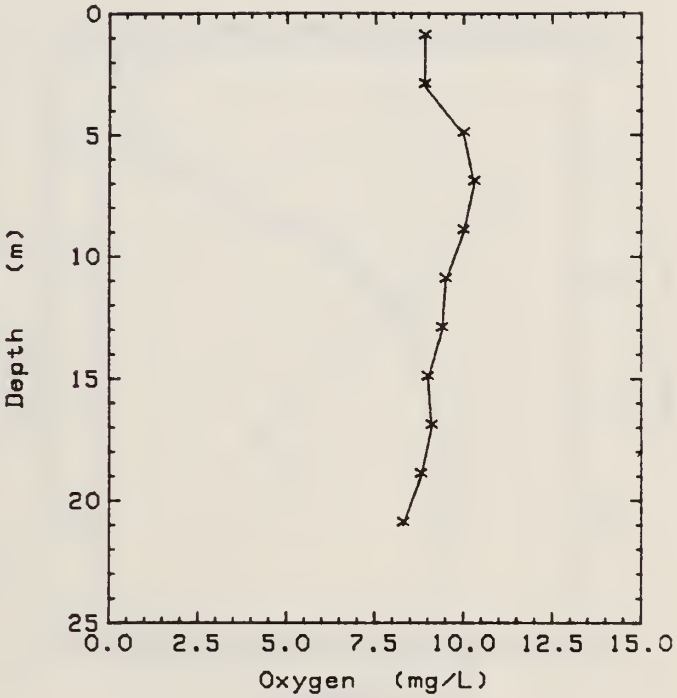

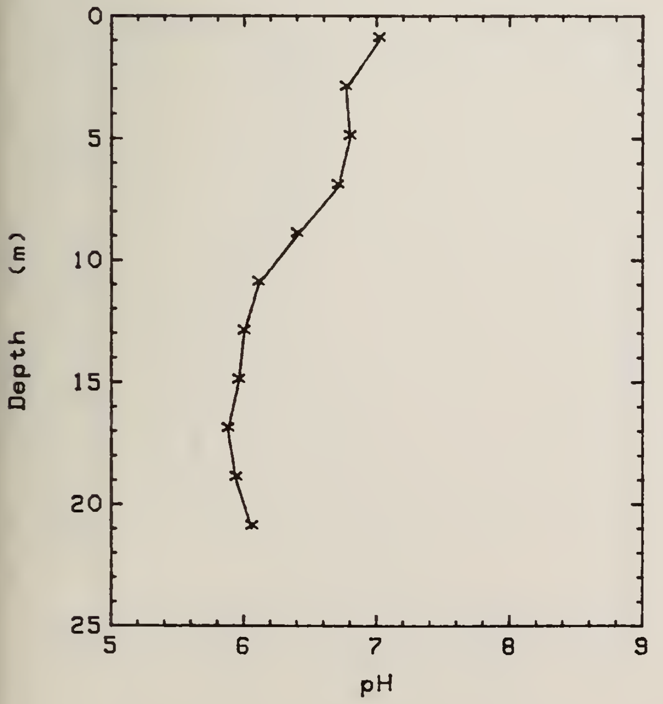

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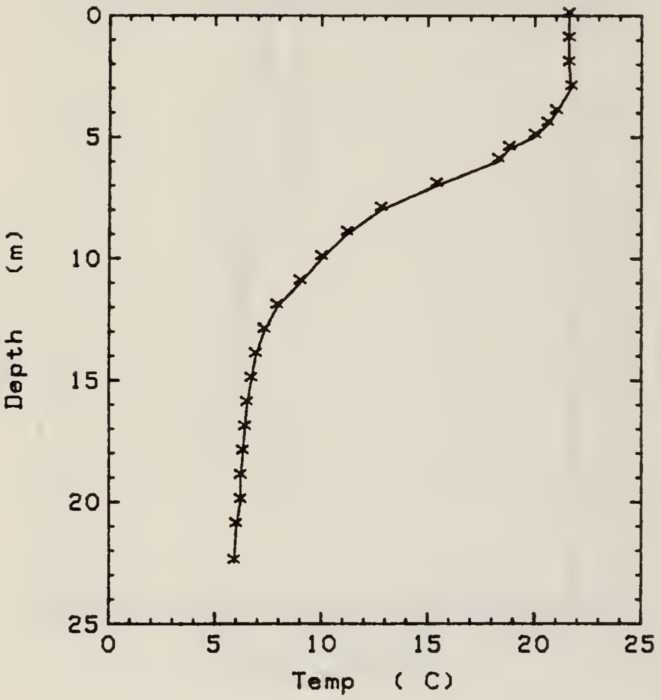

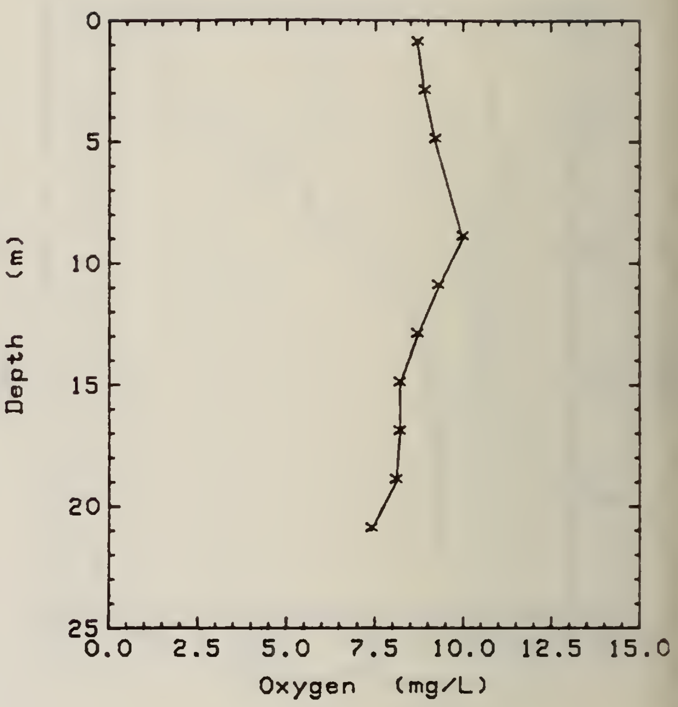

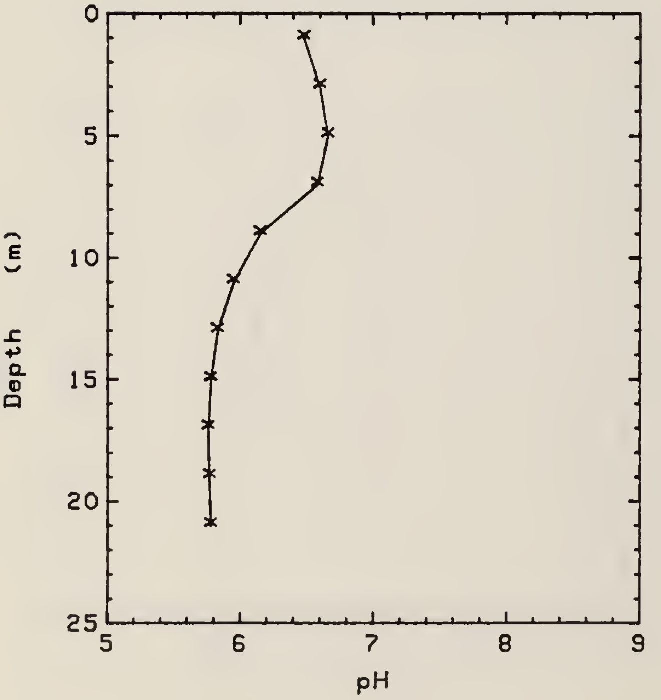

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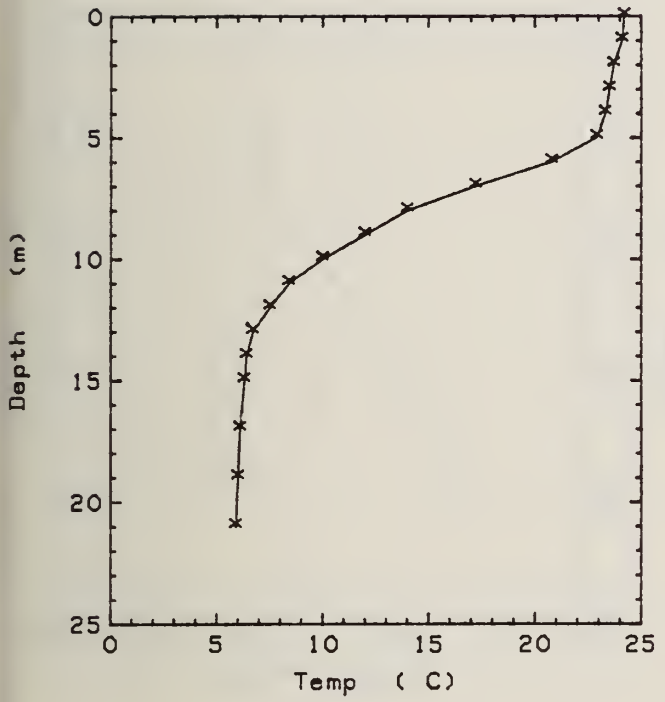

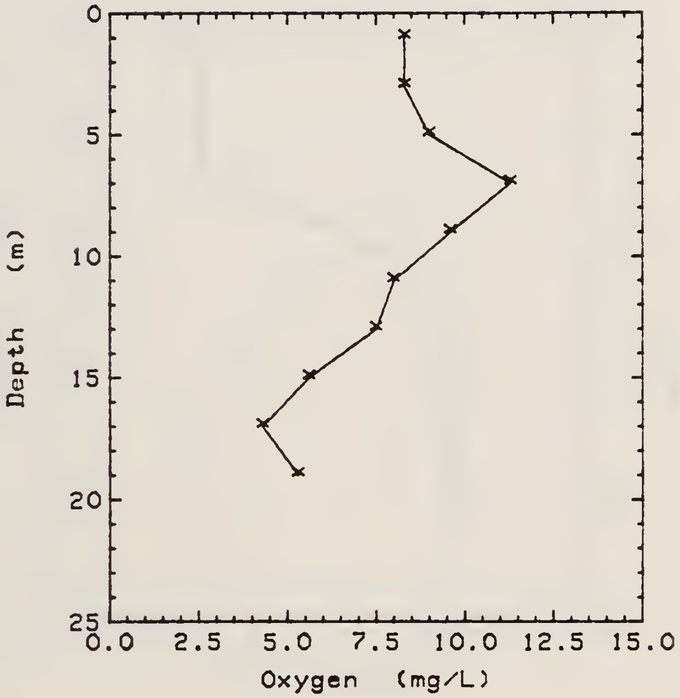

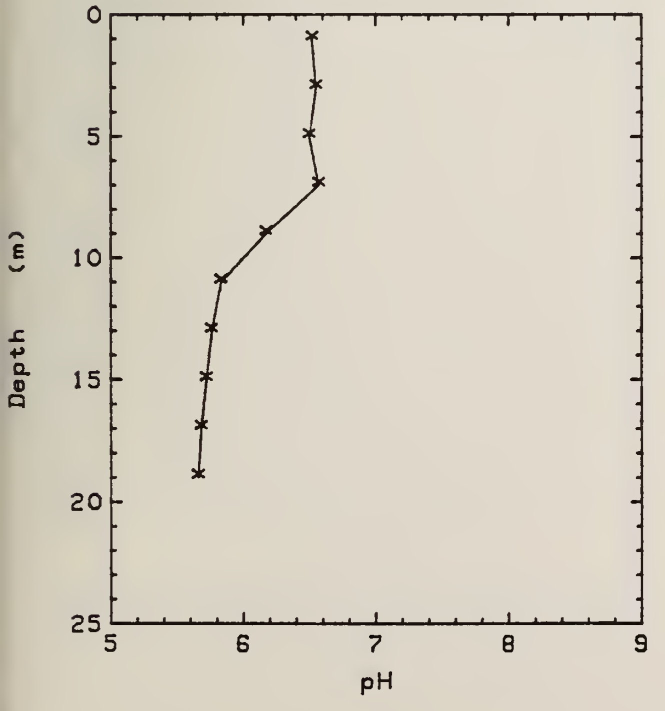

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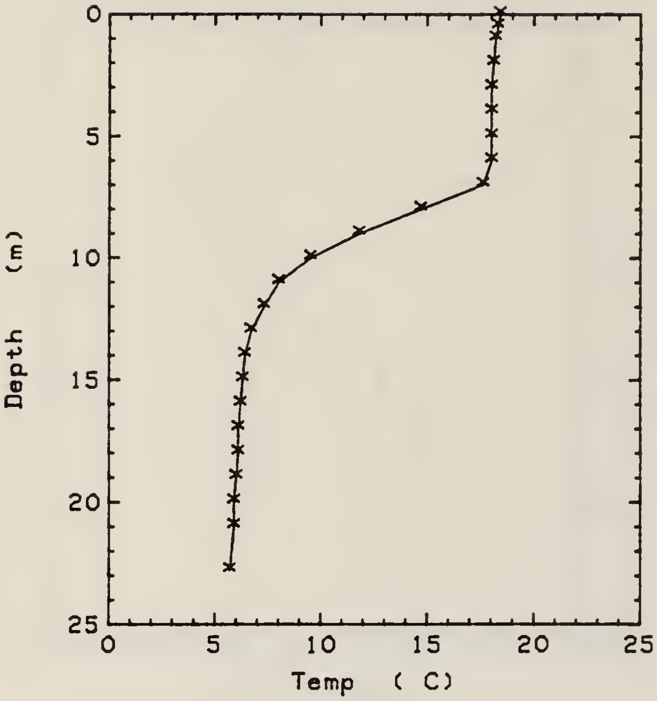

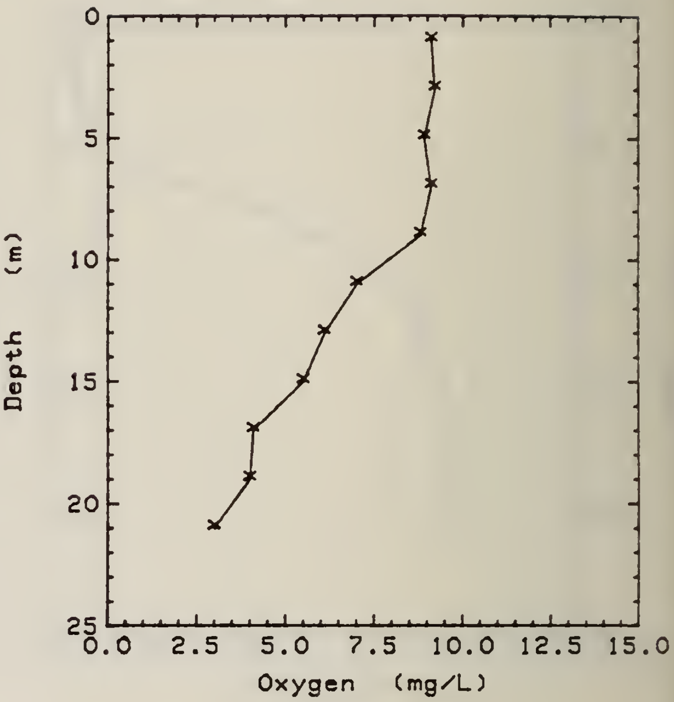

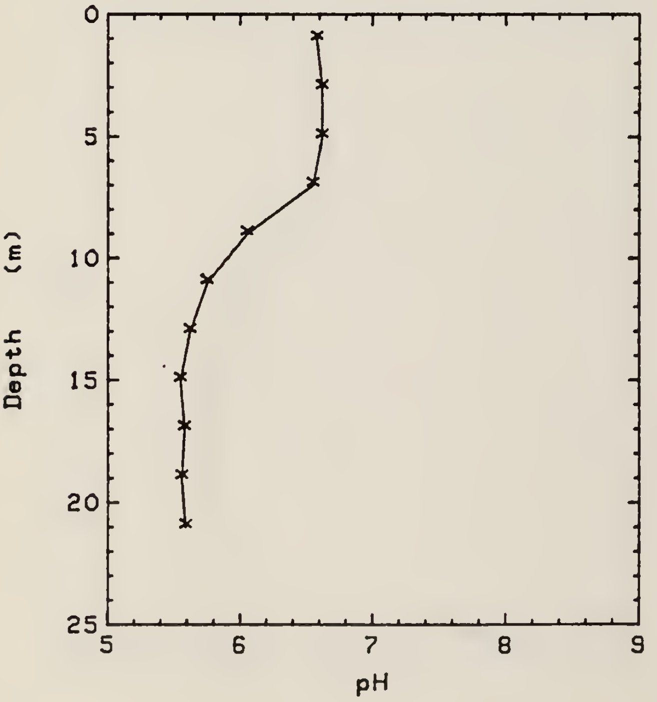

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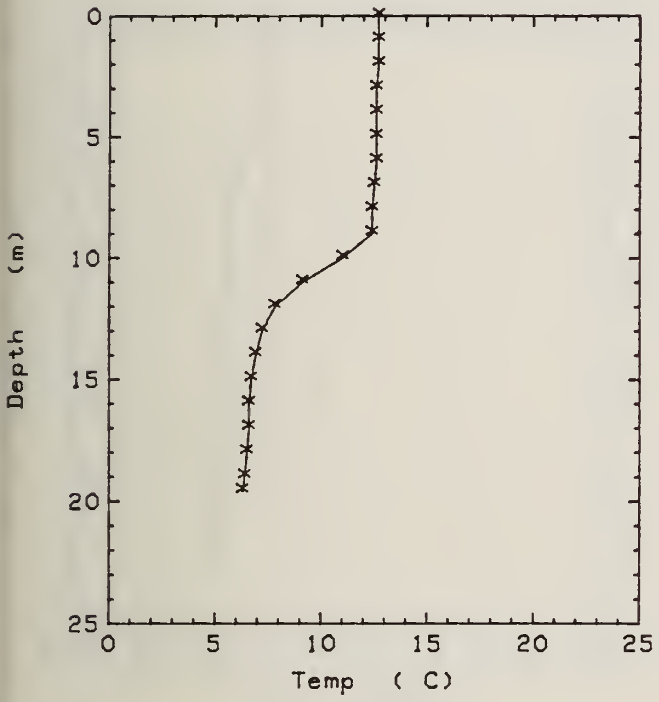

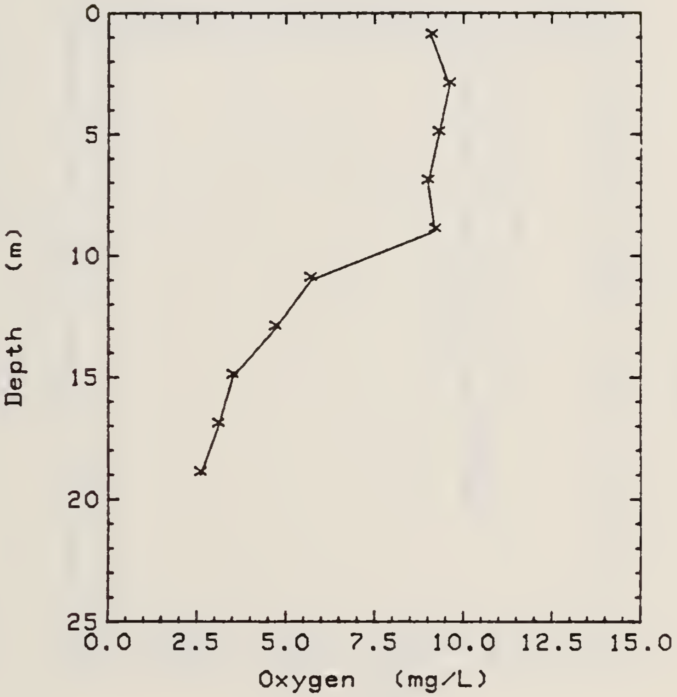

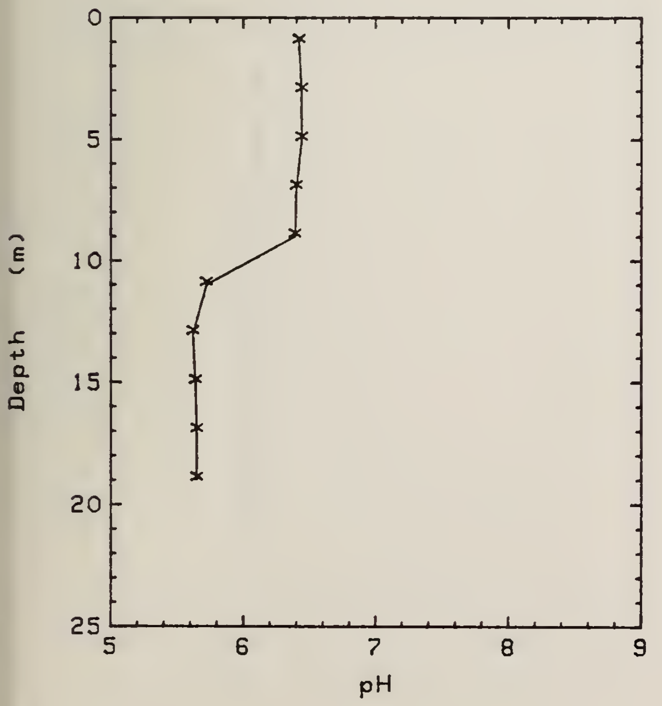

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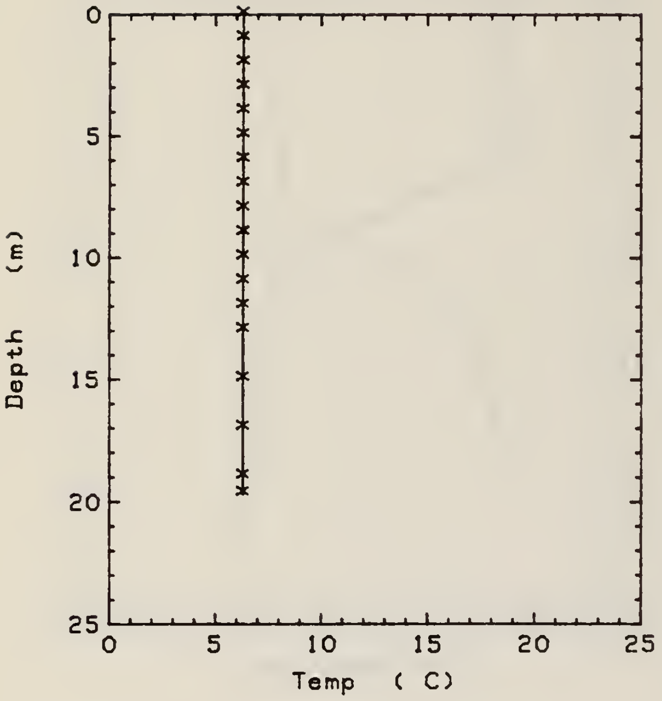

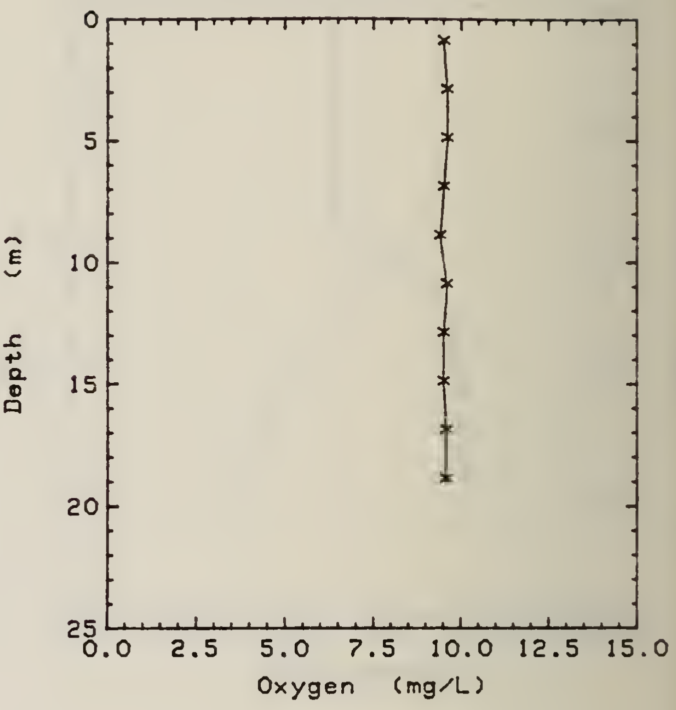

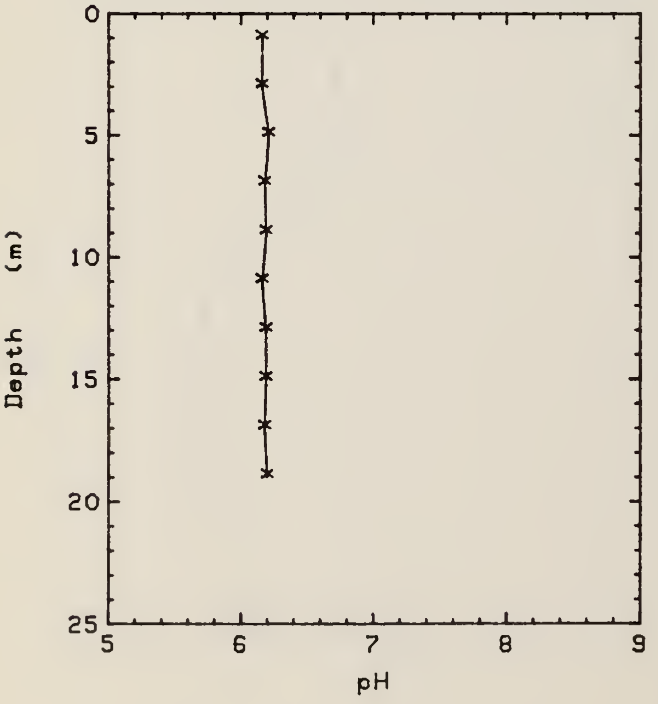

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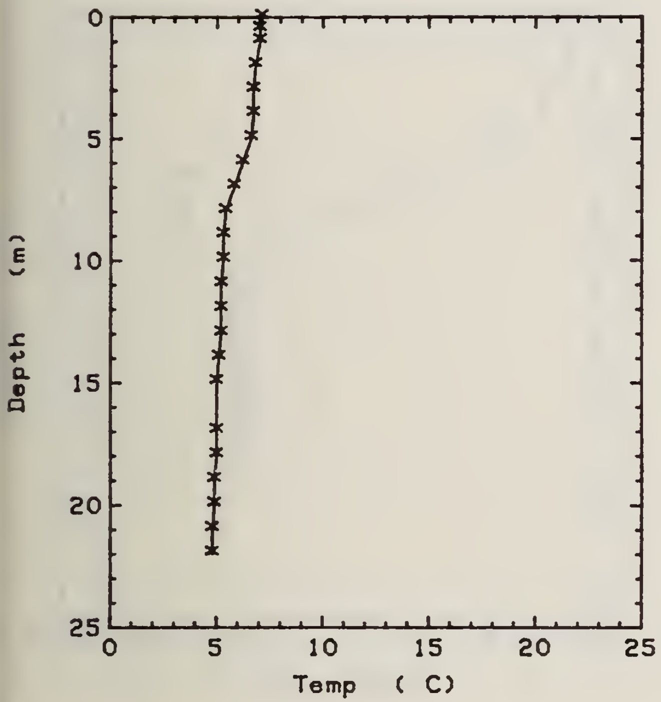

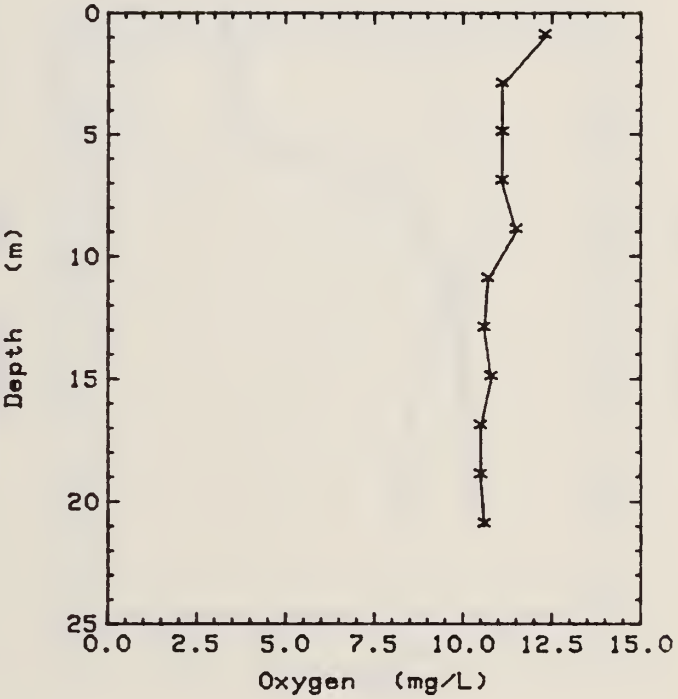

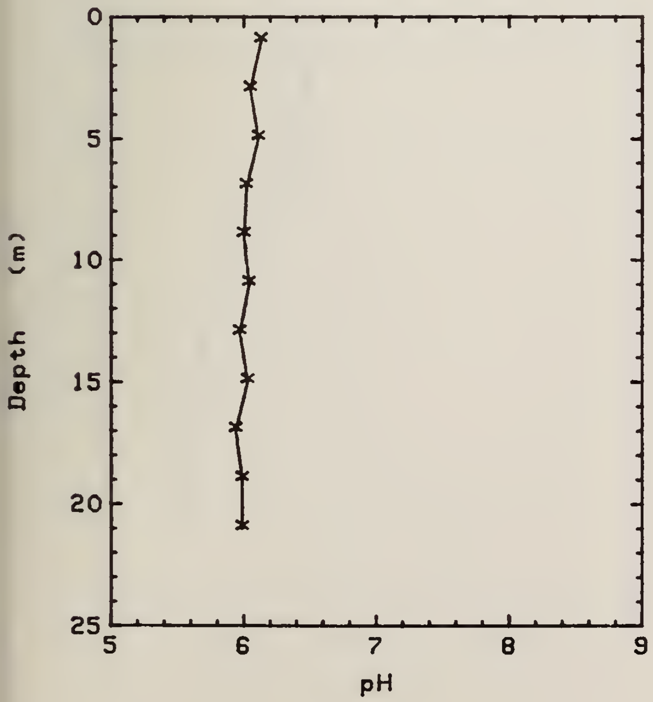

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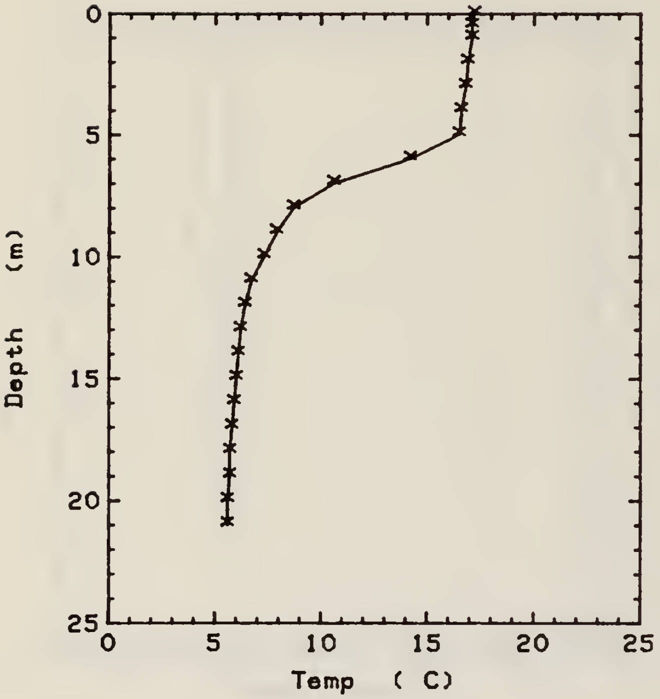

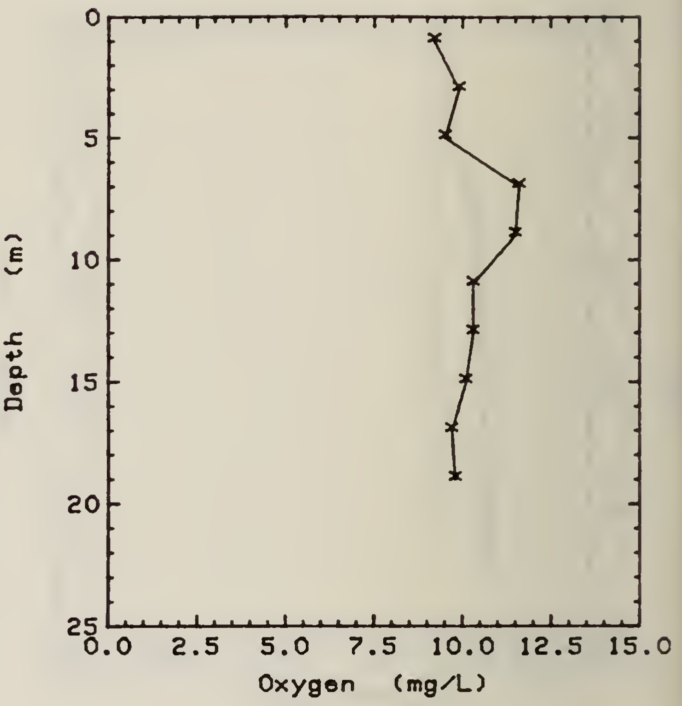

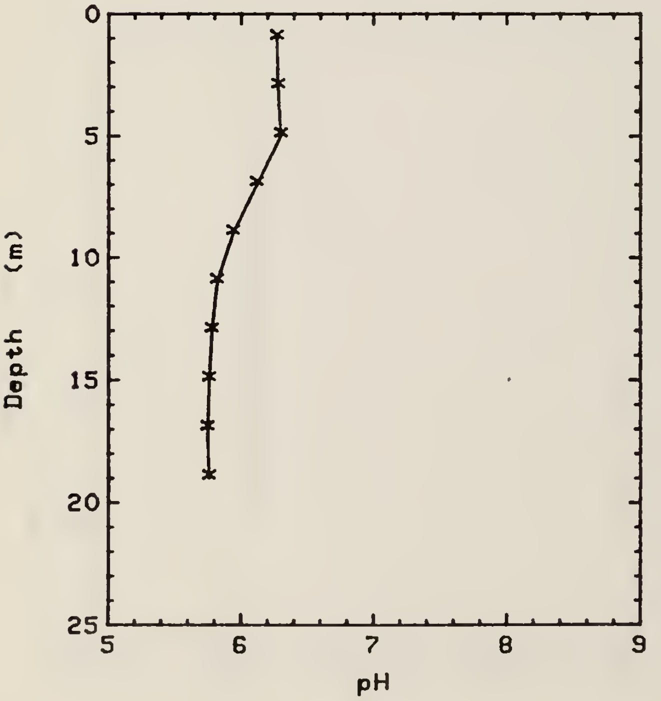

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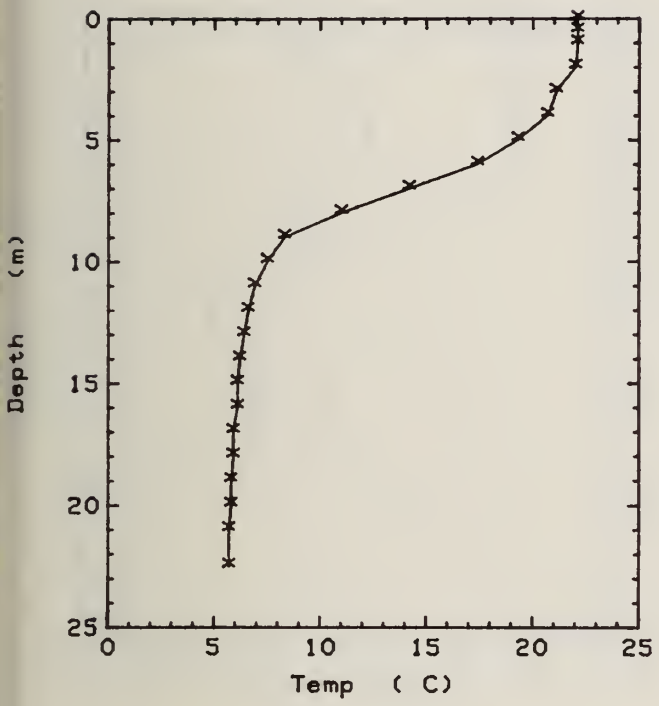

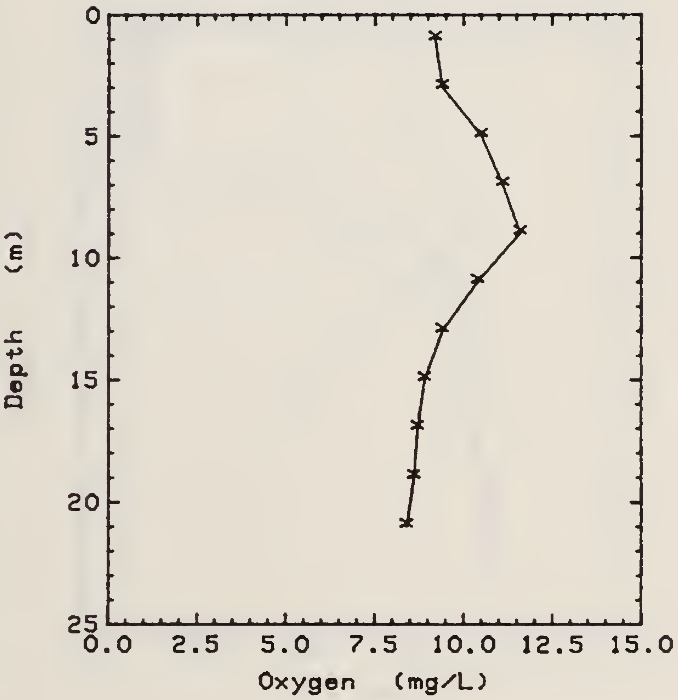

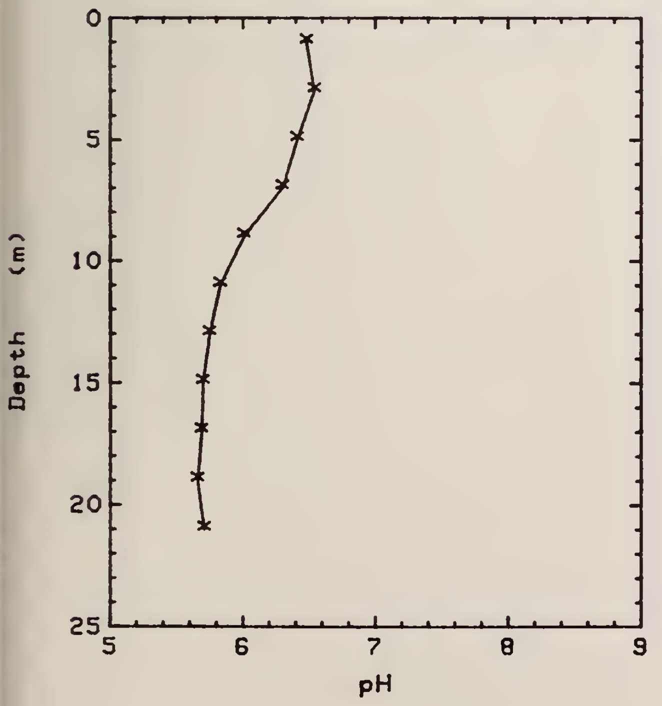

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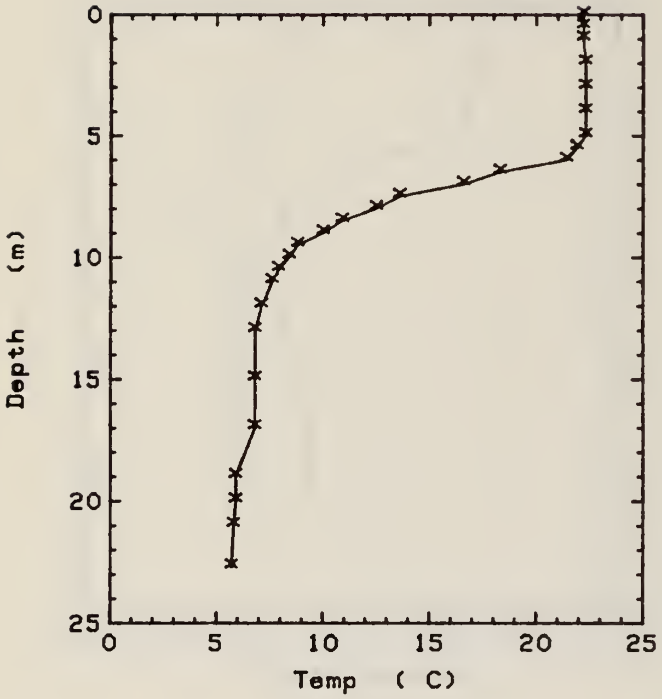

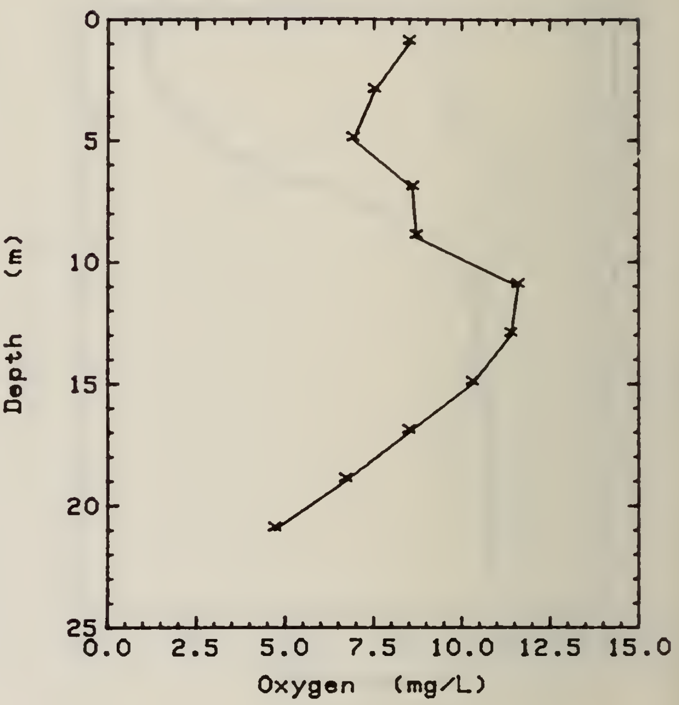

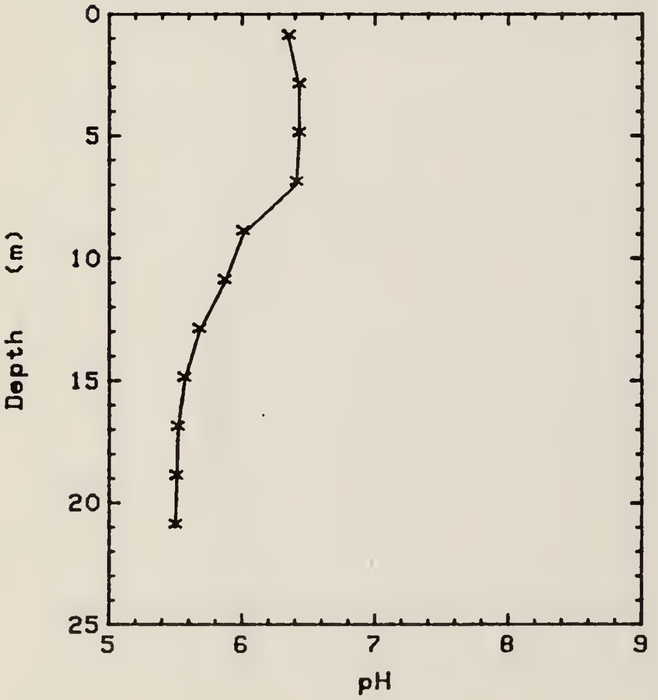

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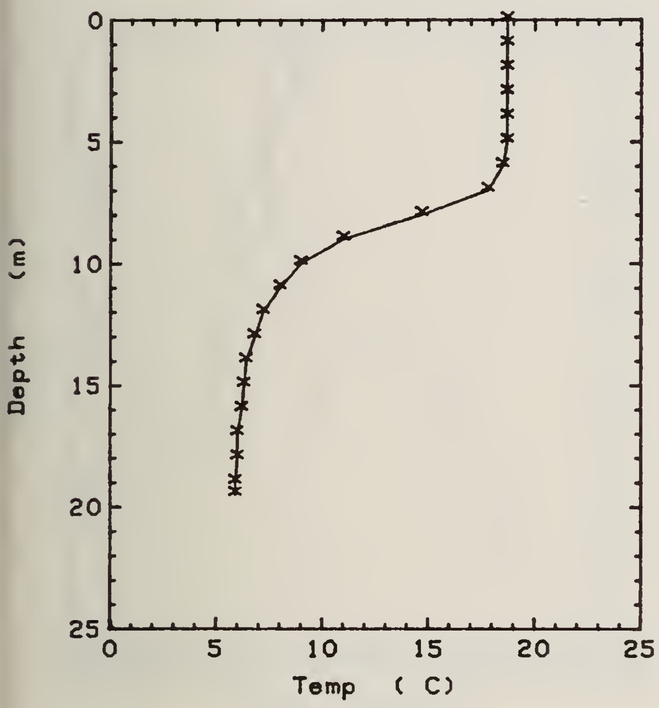

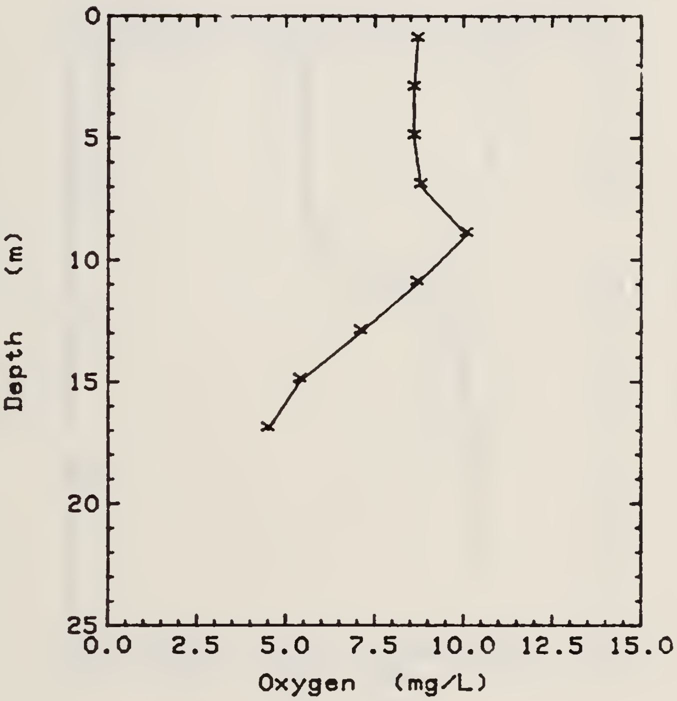

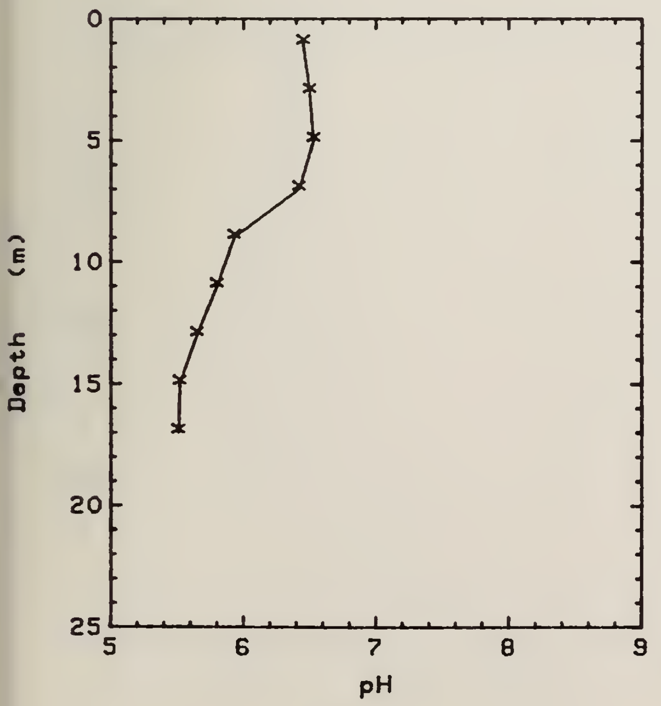

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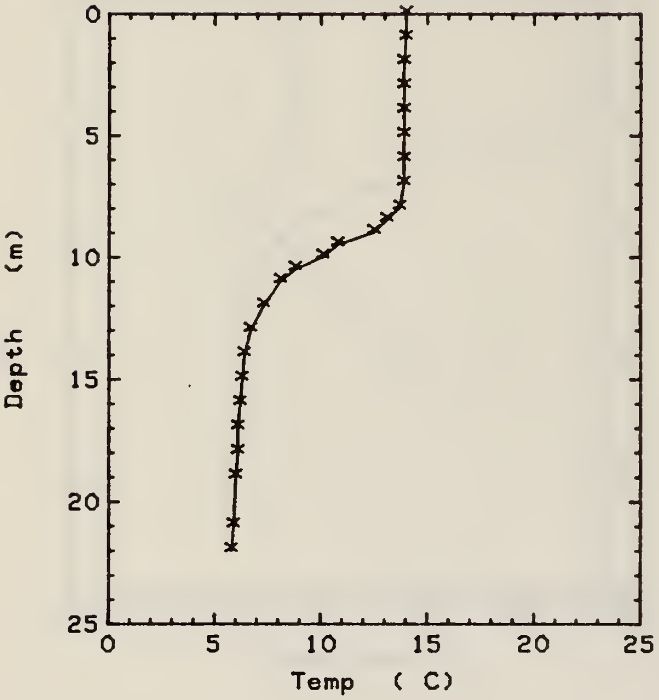

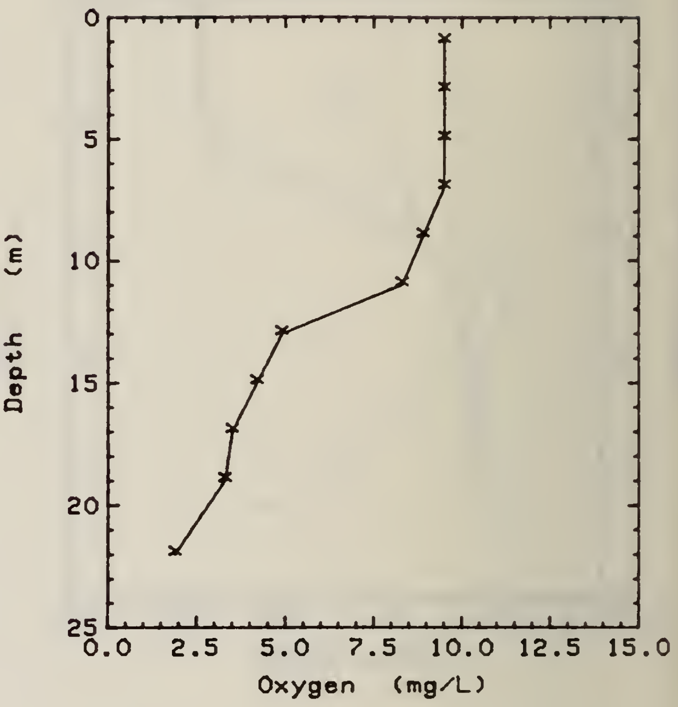

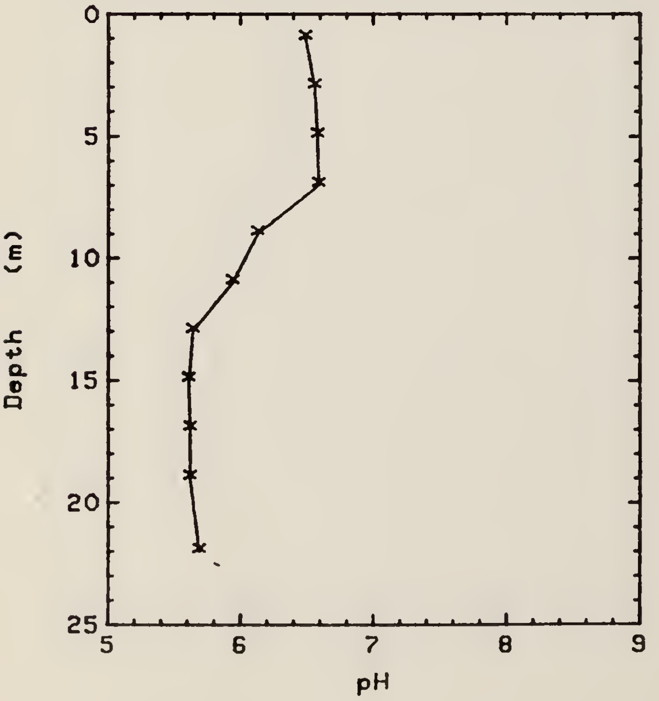

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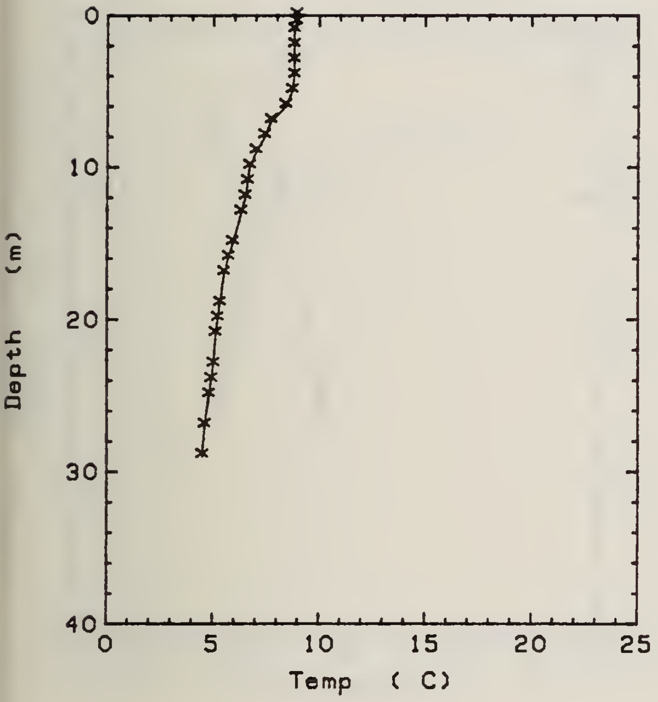

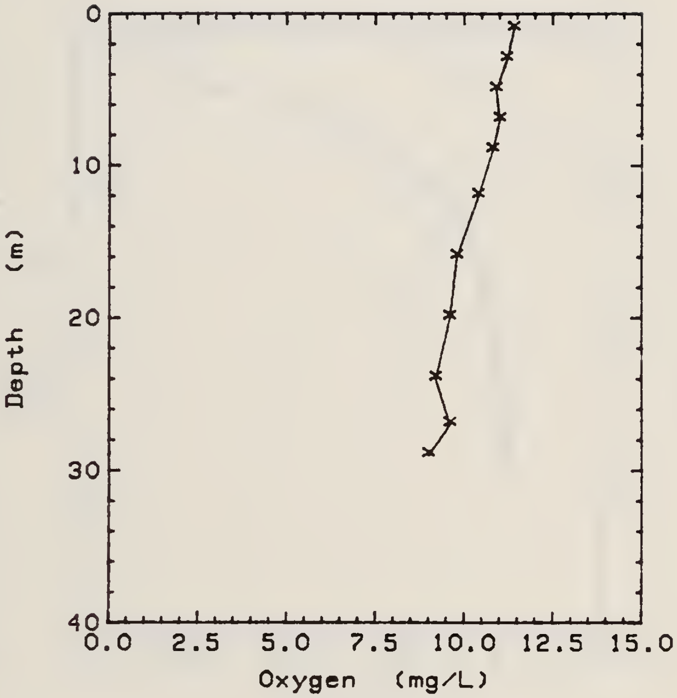

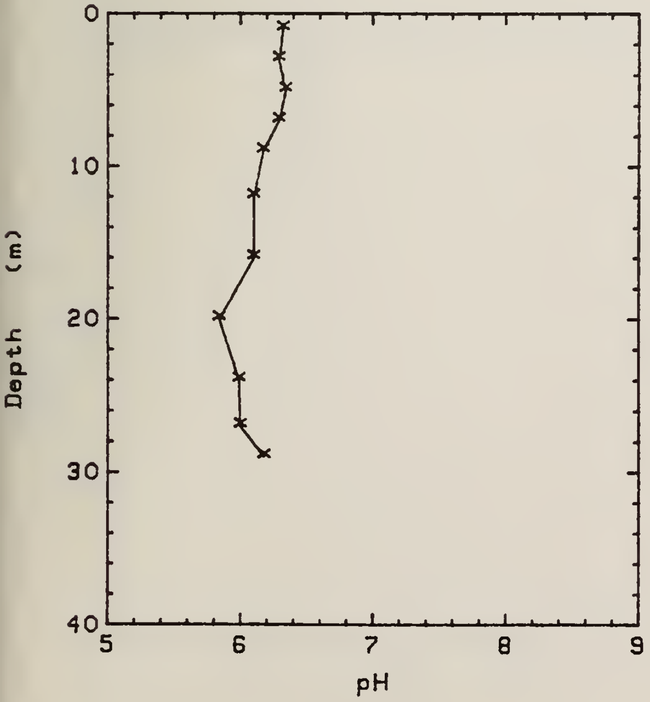

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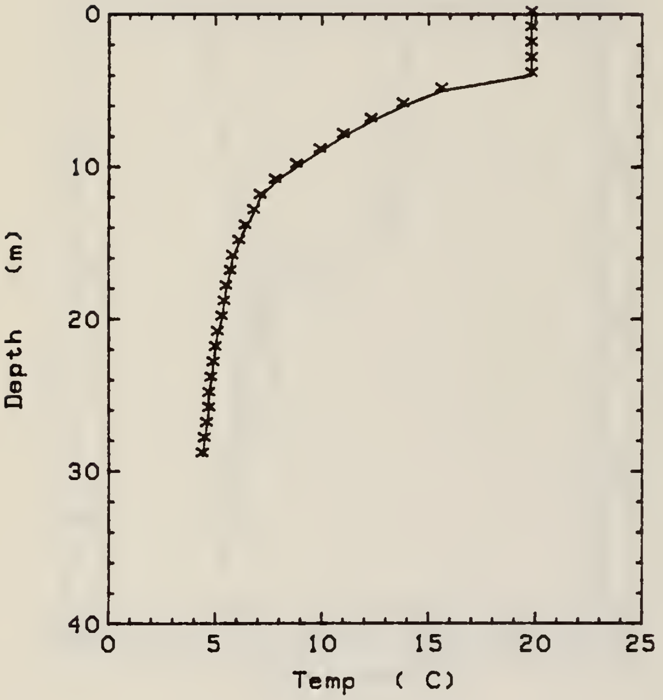

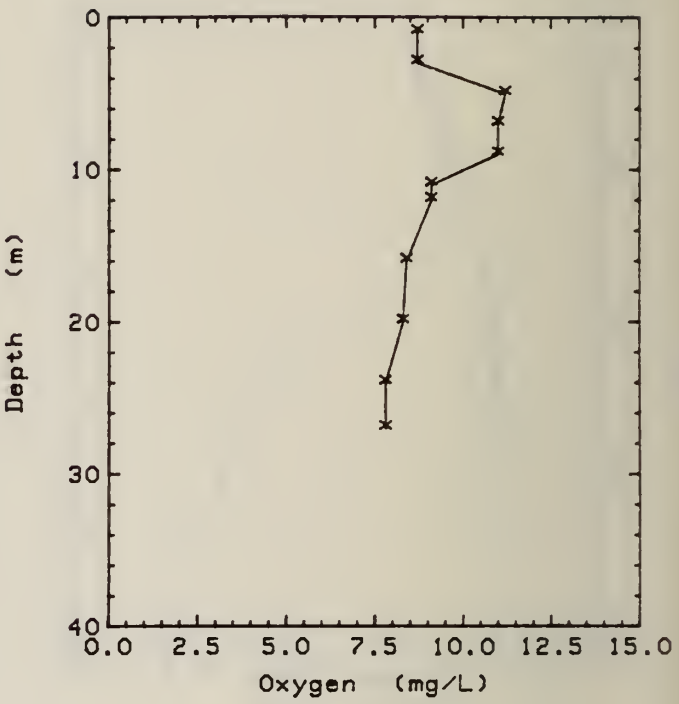

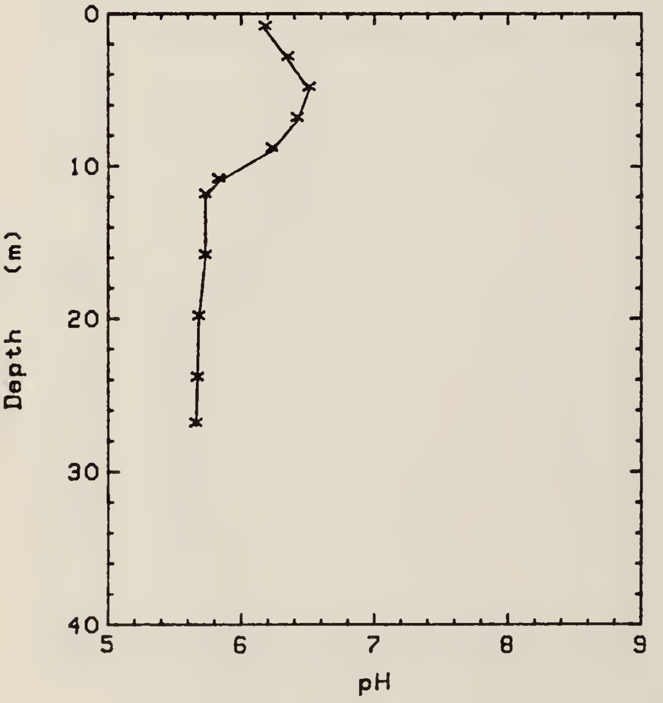

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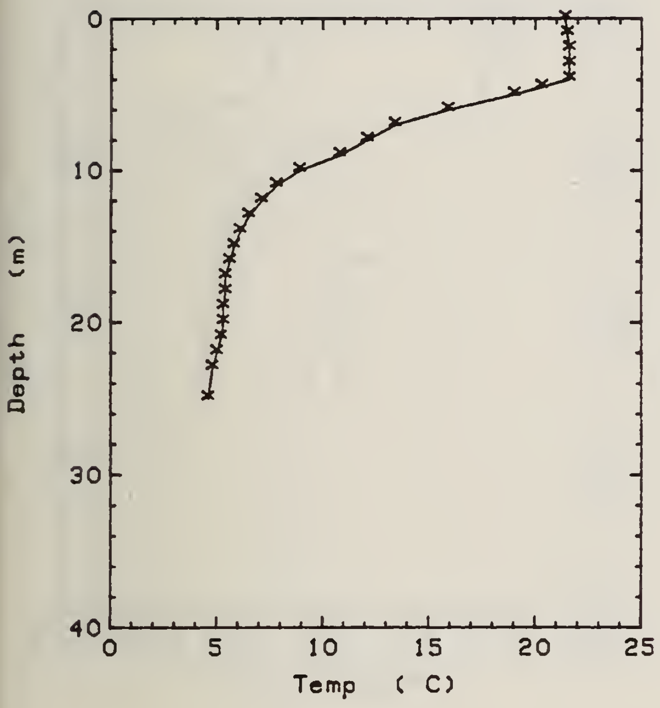

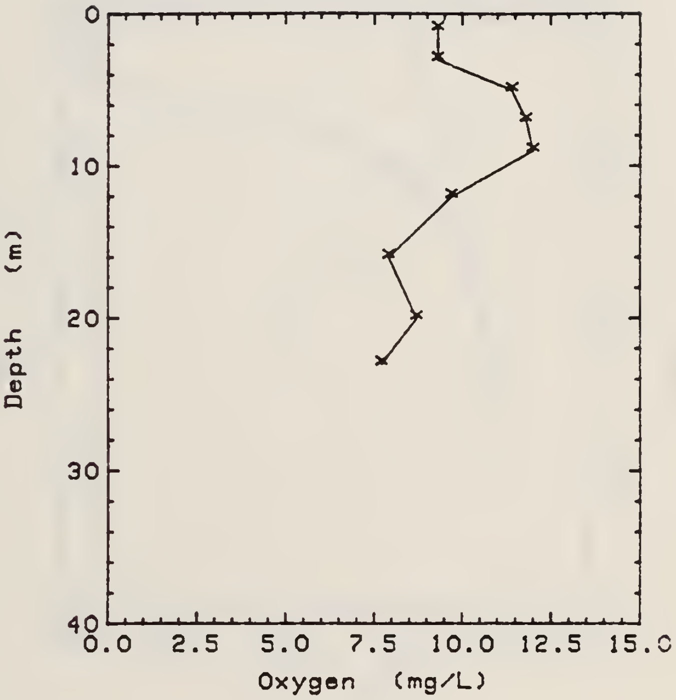

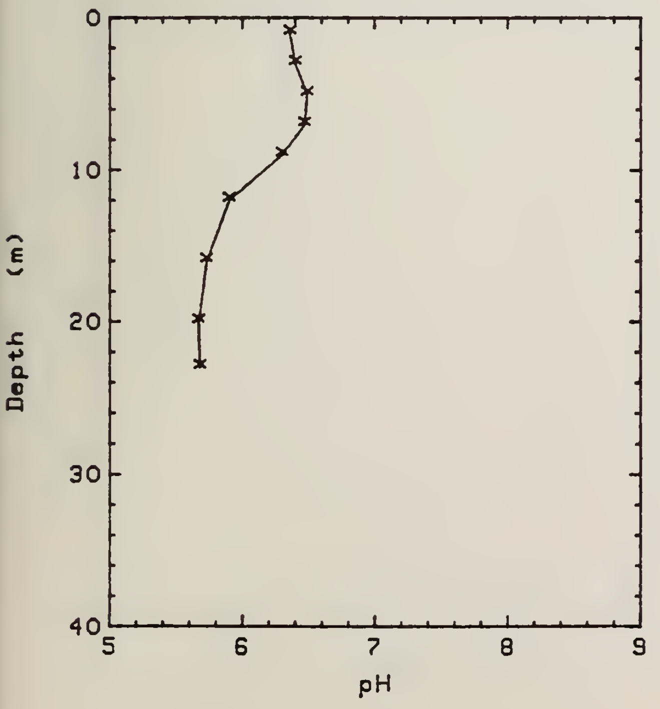

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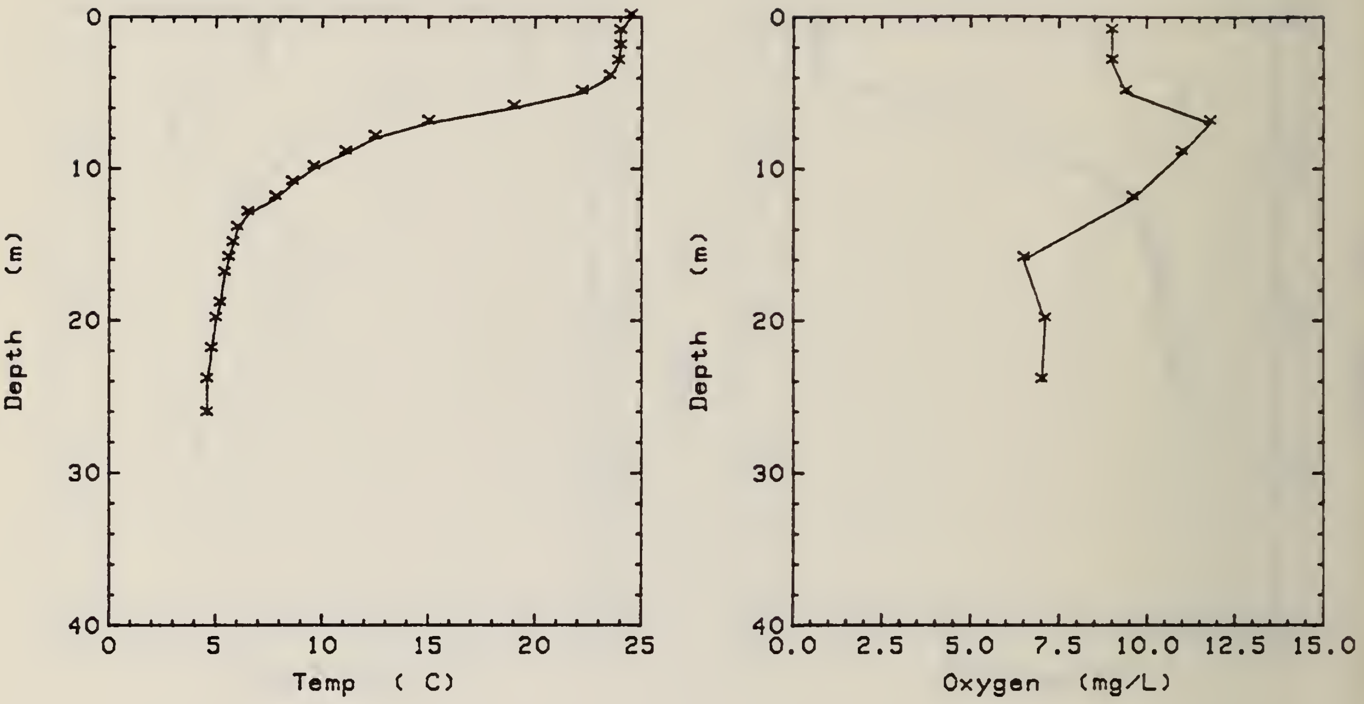

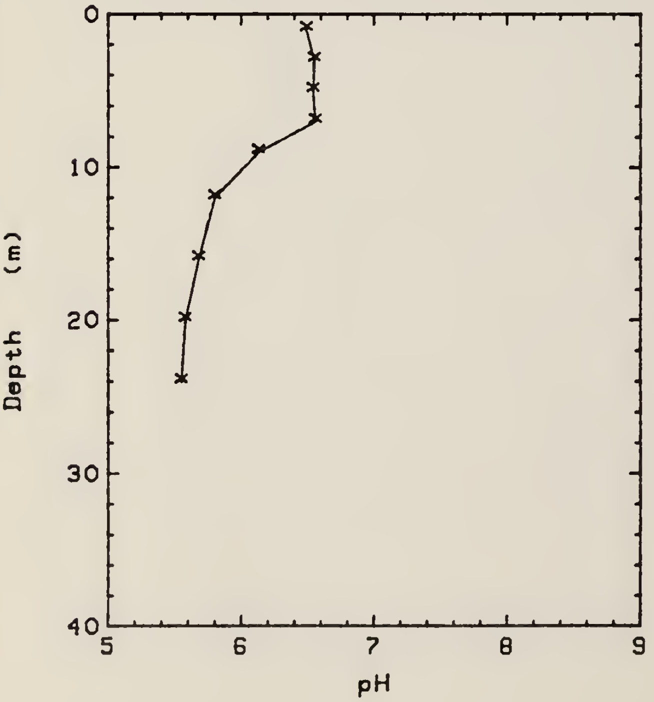

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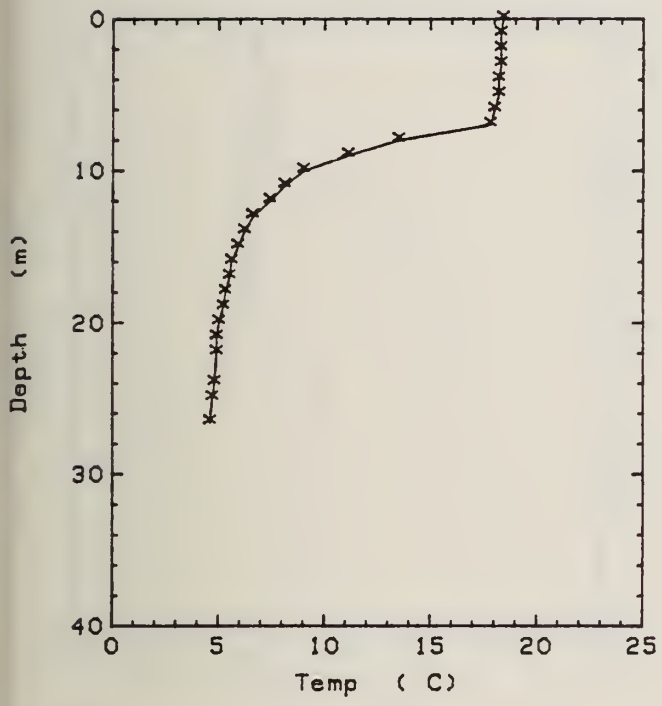

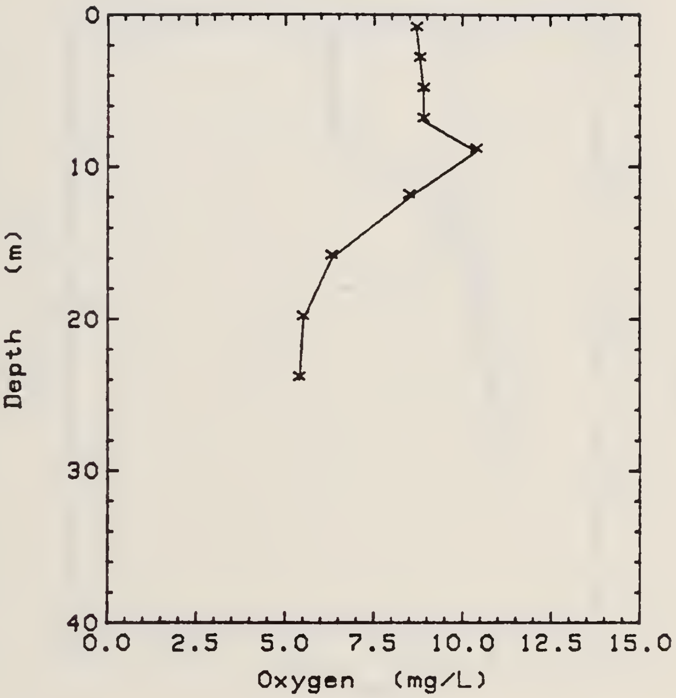

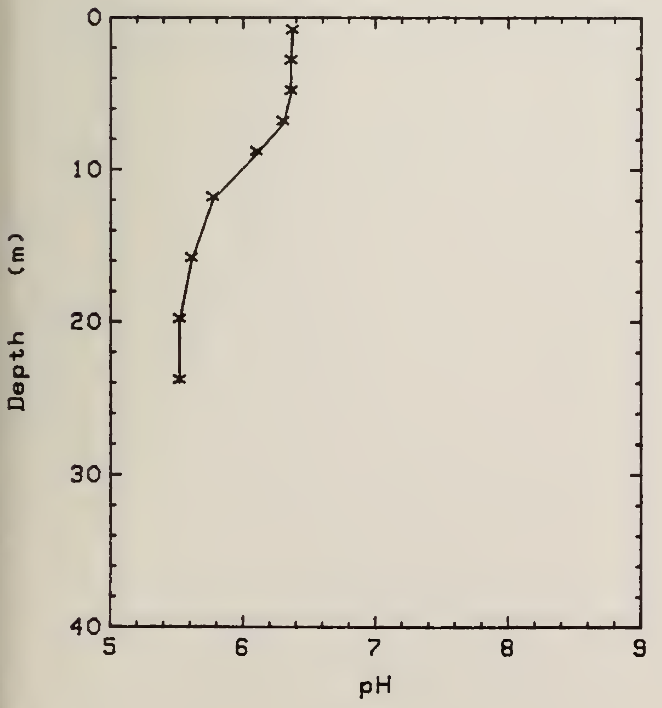

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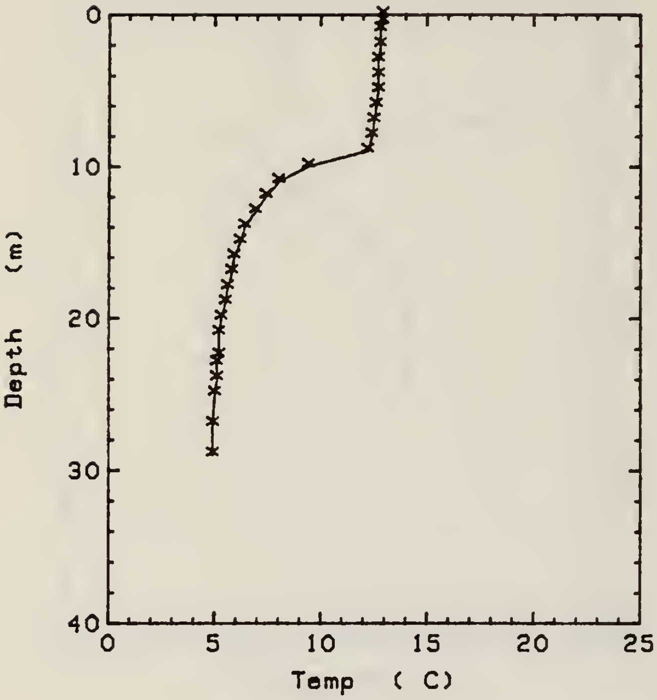
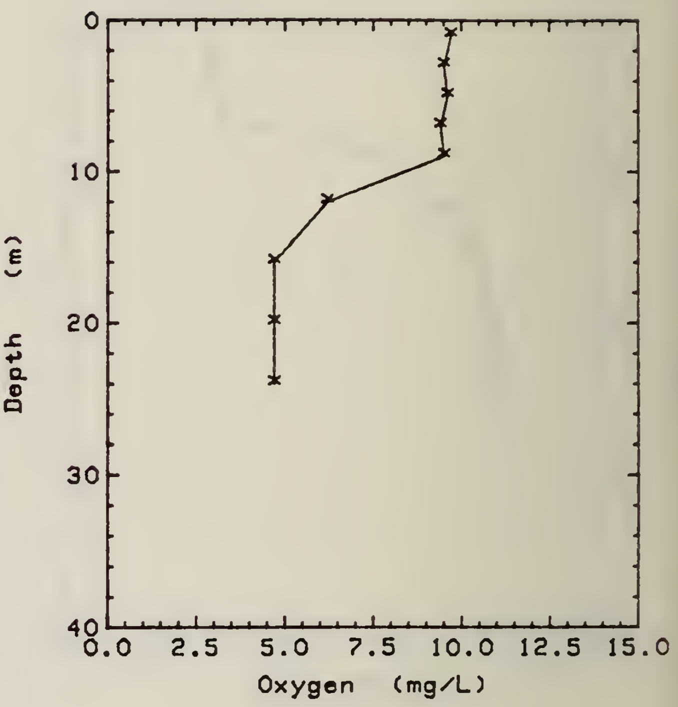
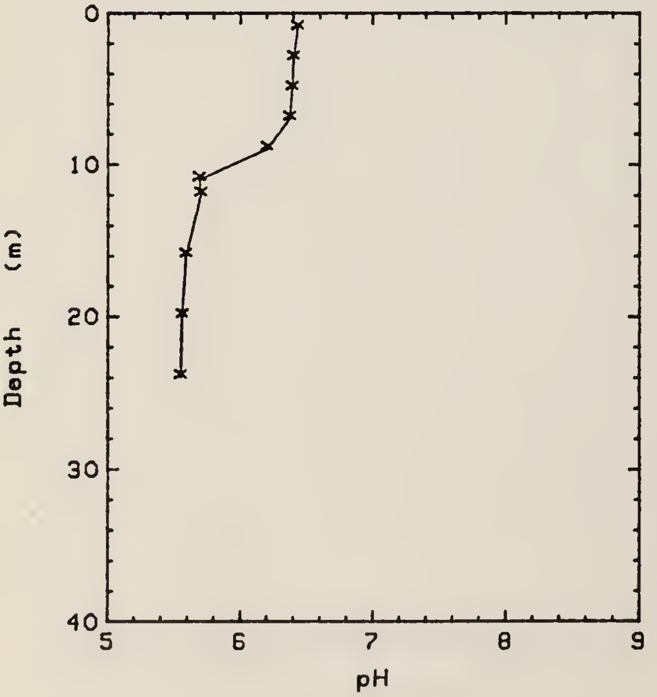
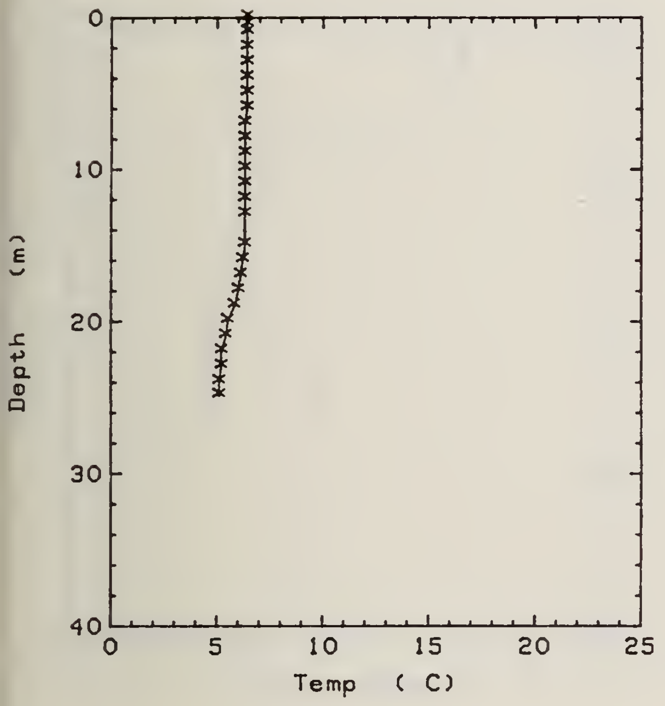
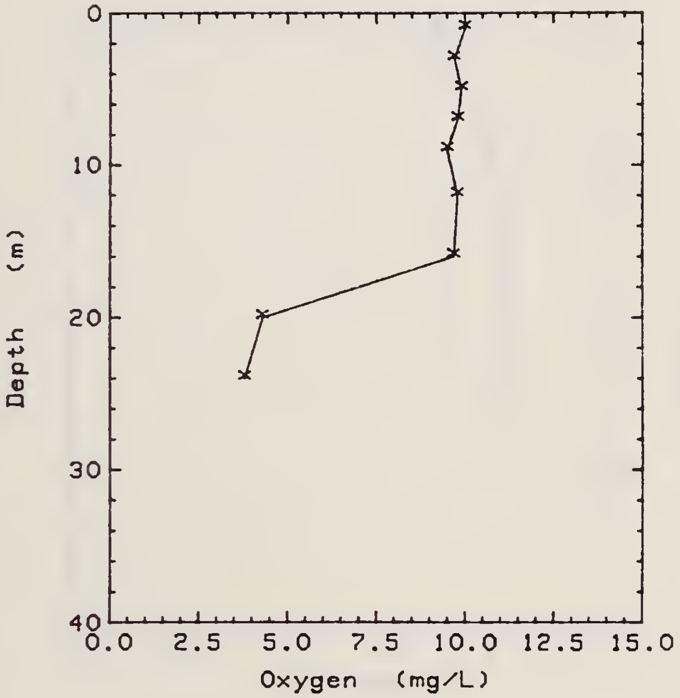


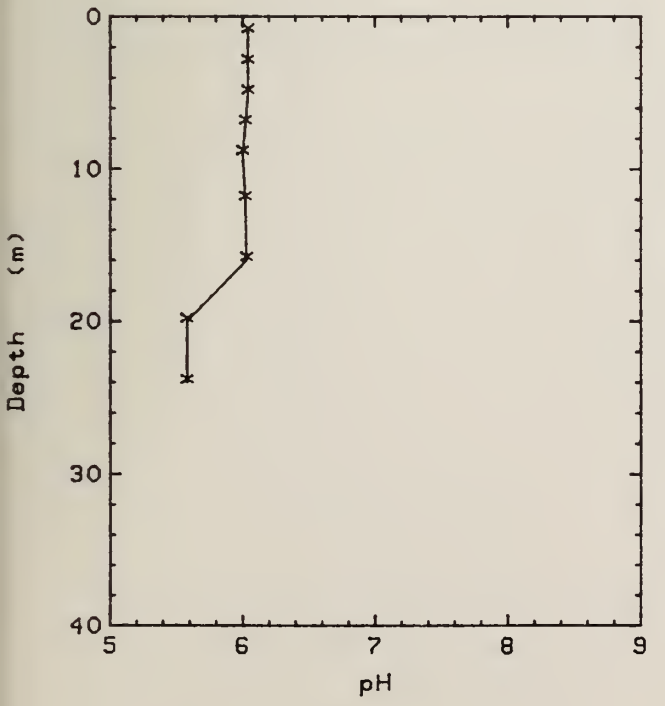




SHERBORNE 84.11.14







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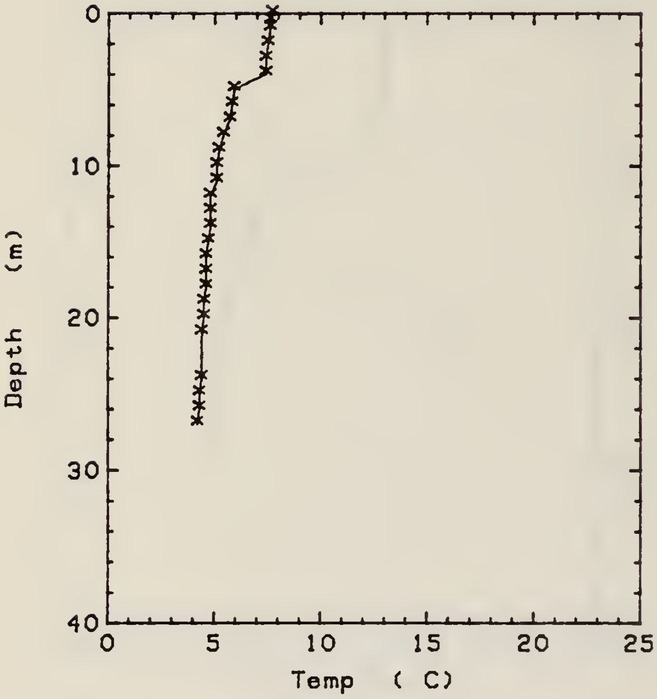

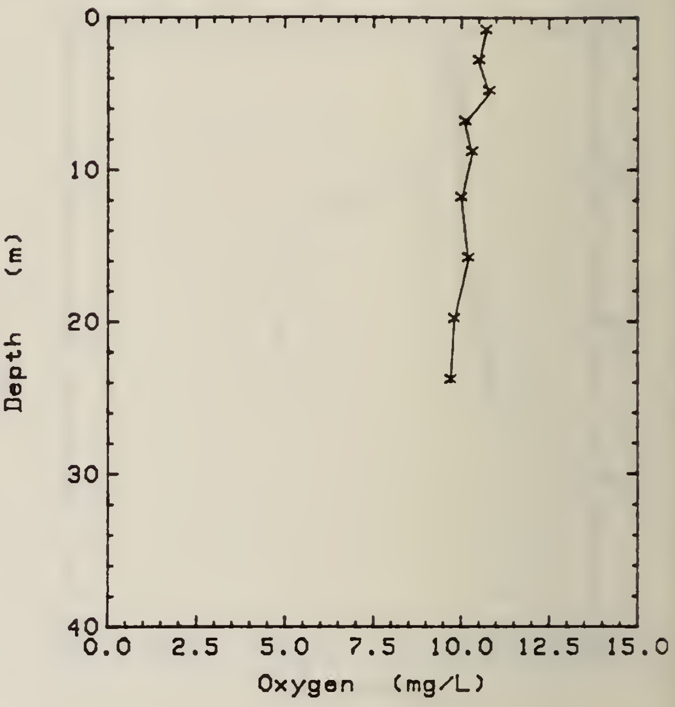

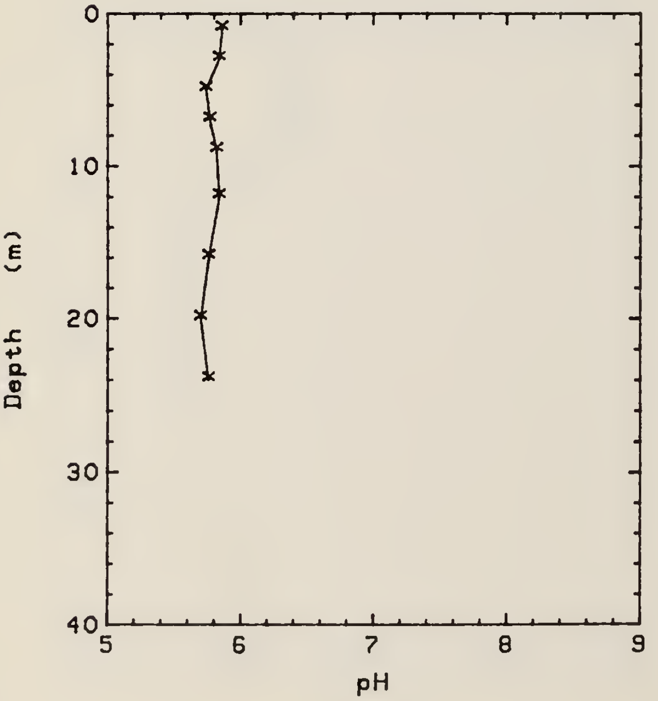

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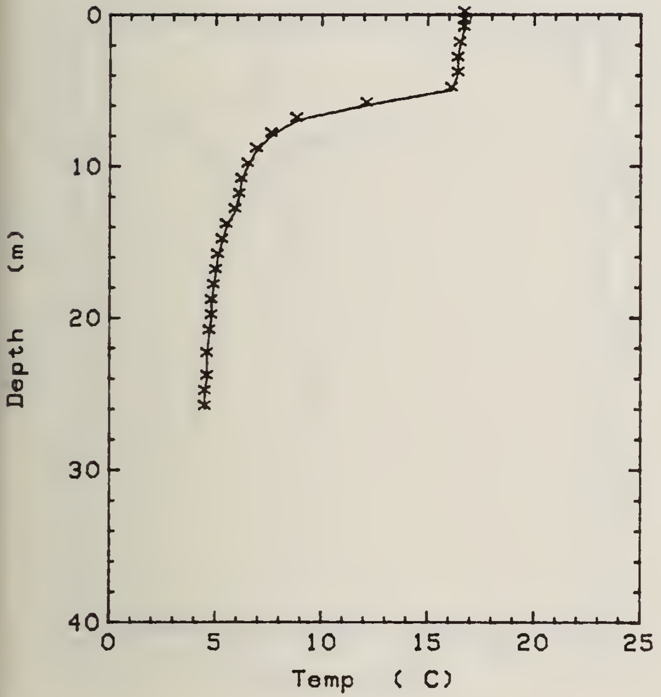

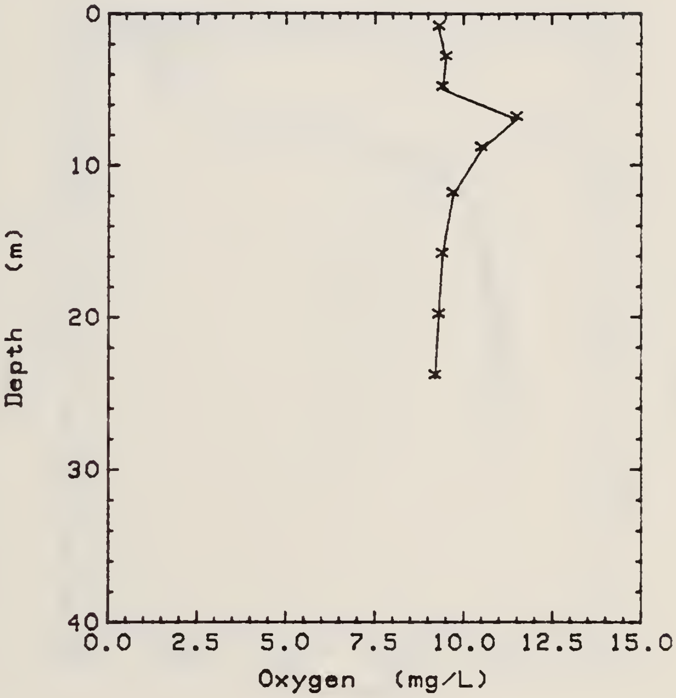

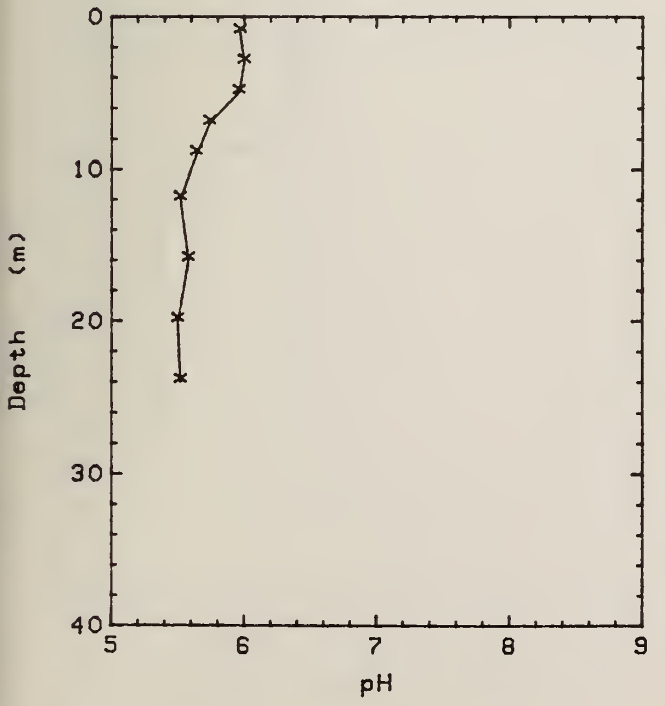

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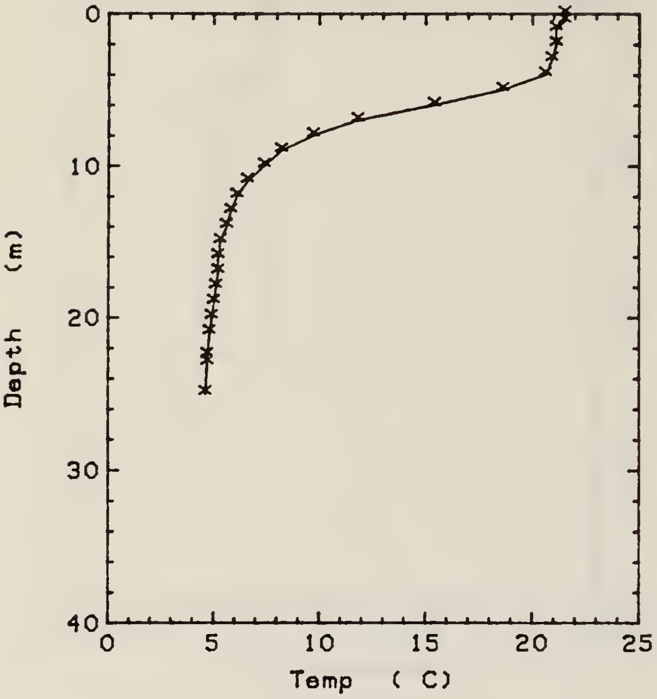

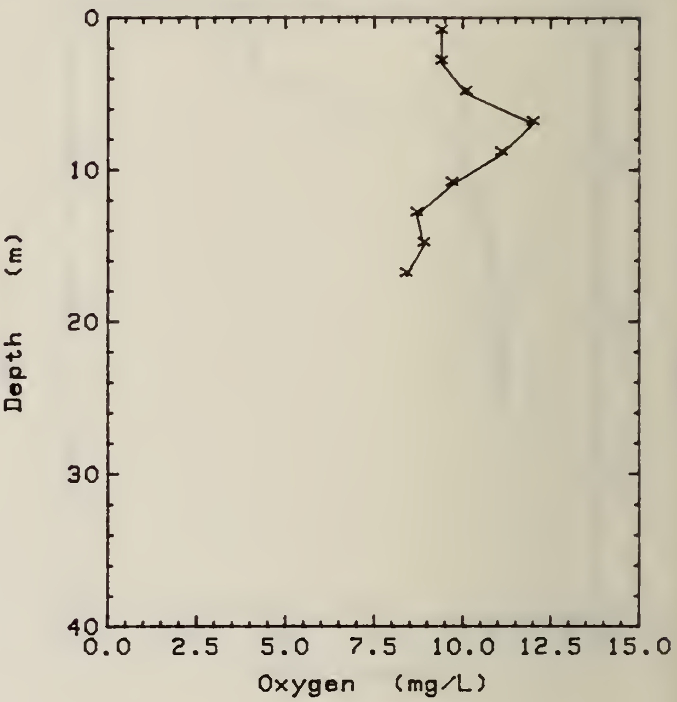

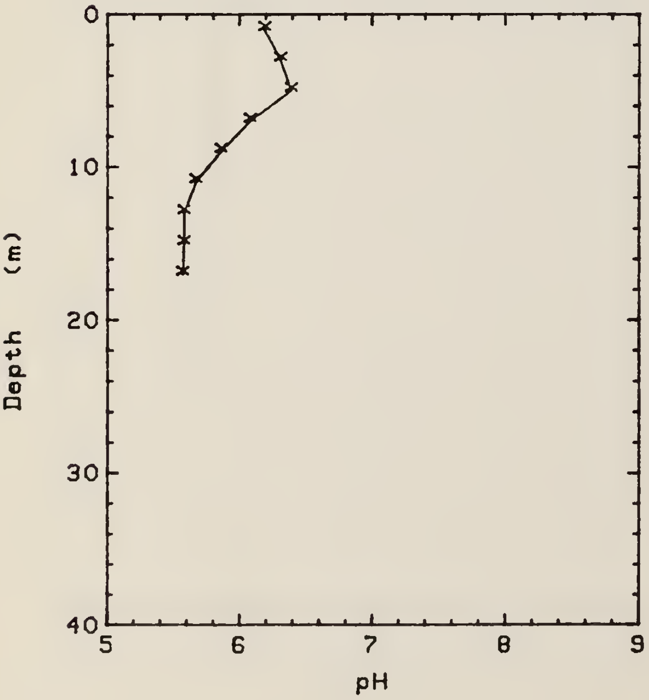

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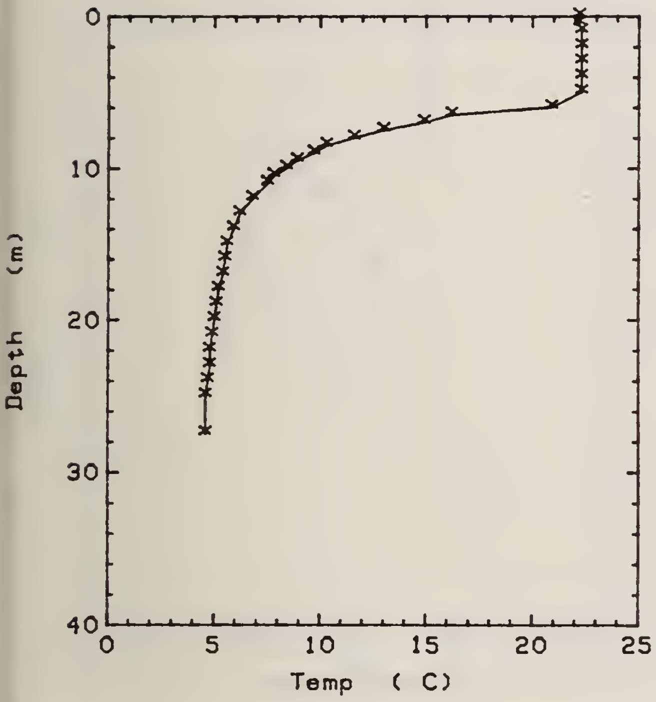

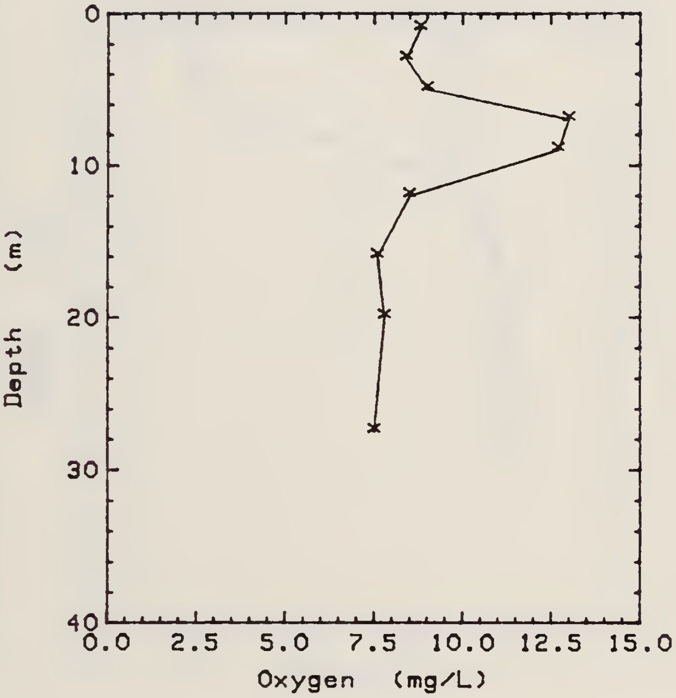

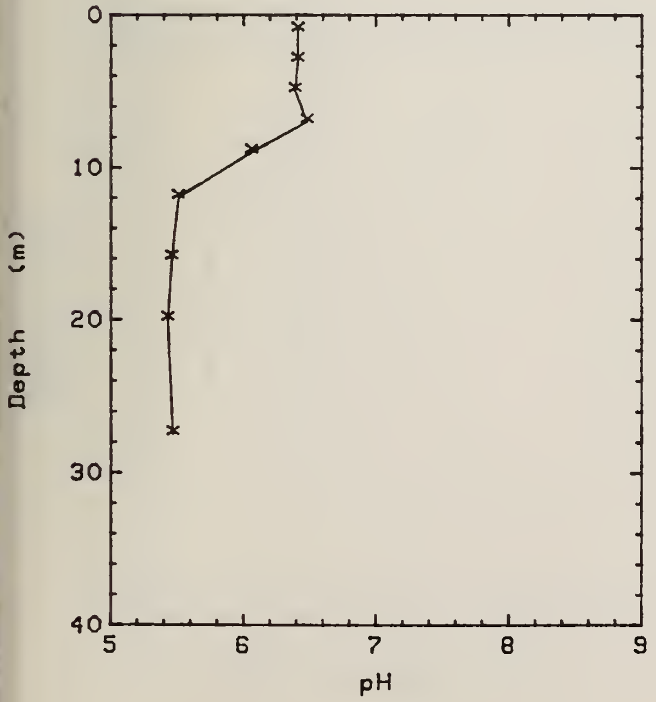

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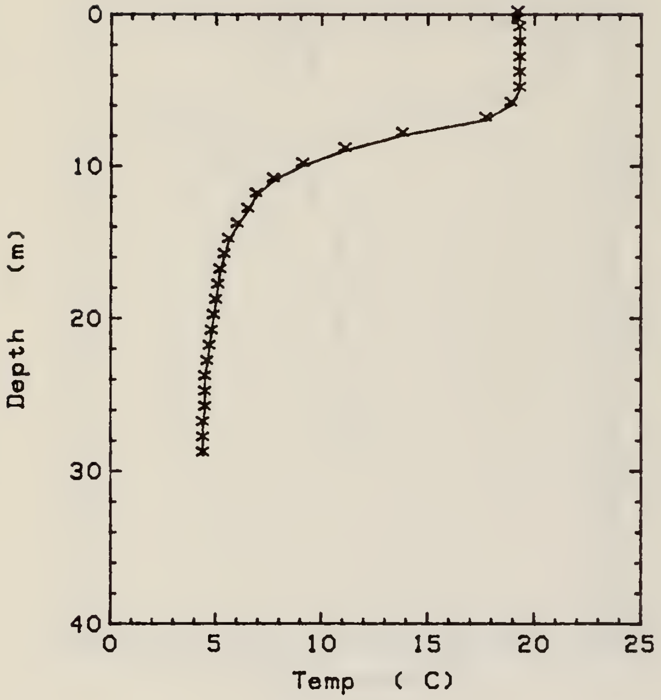

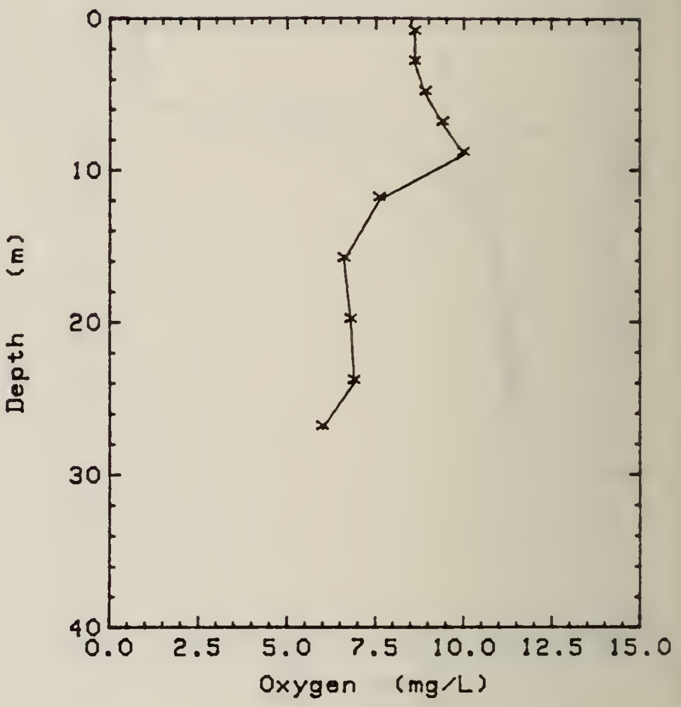

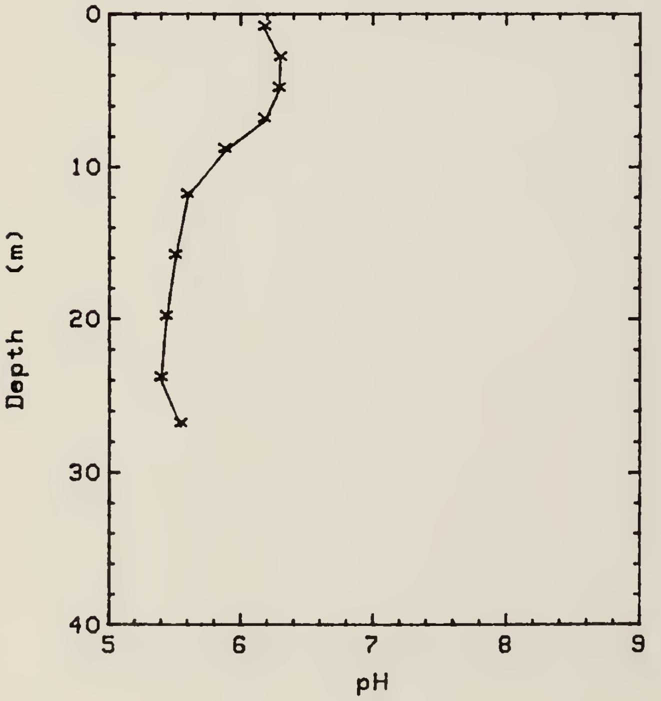

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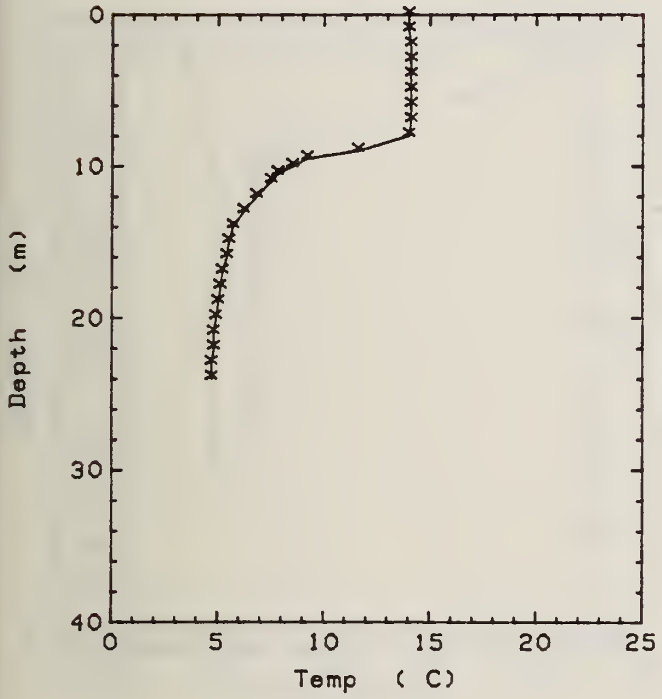

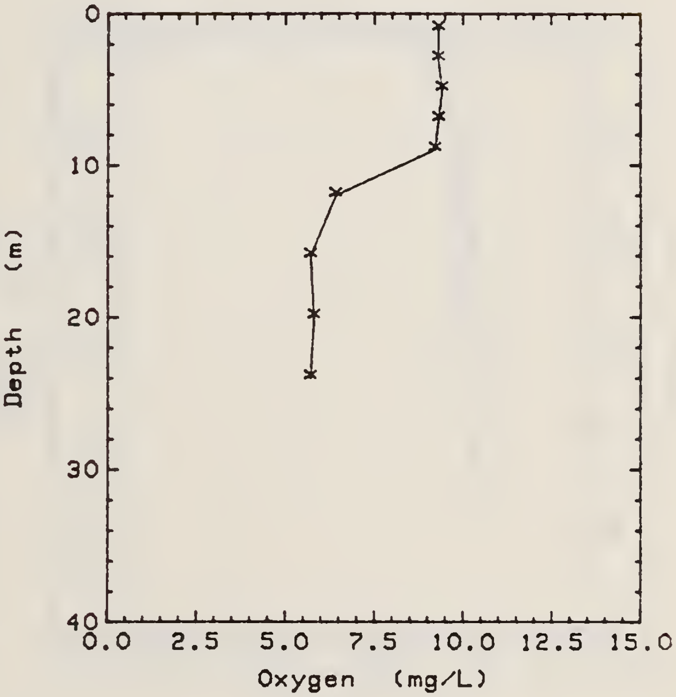

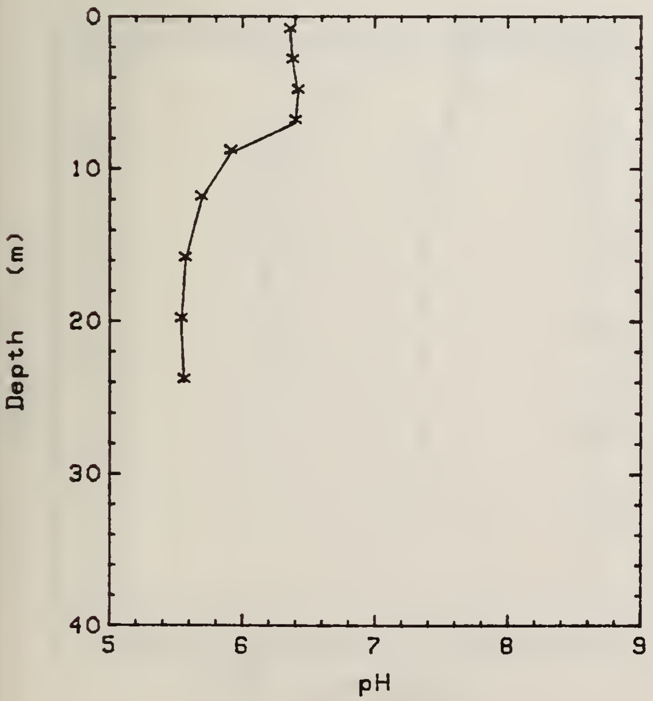

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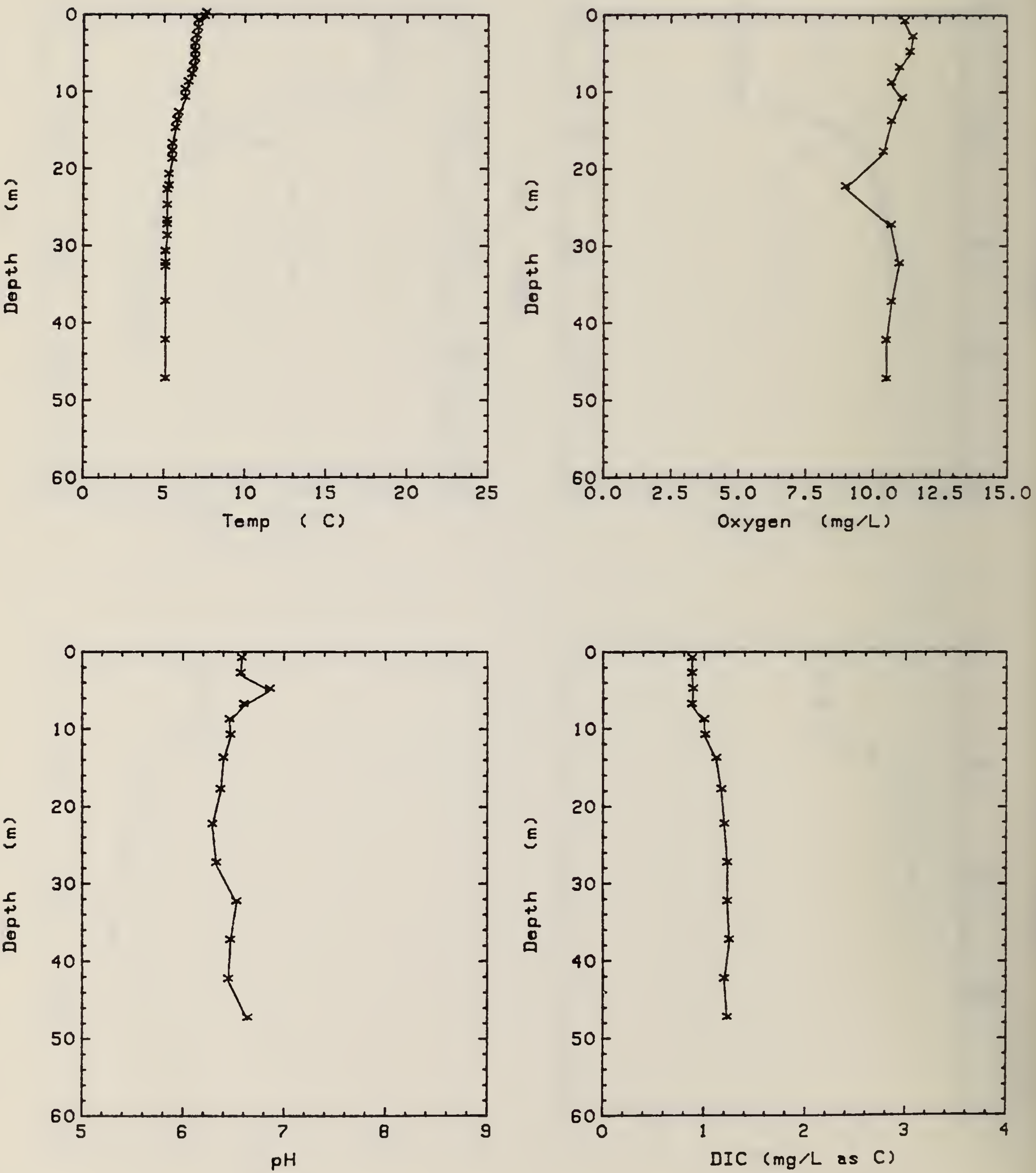

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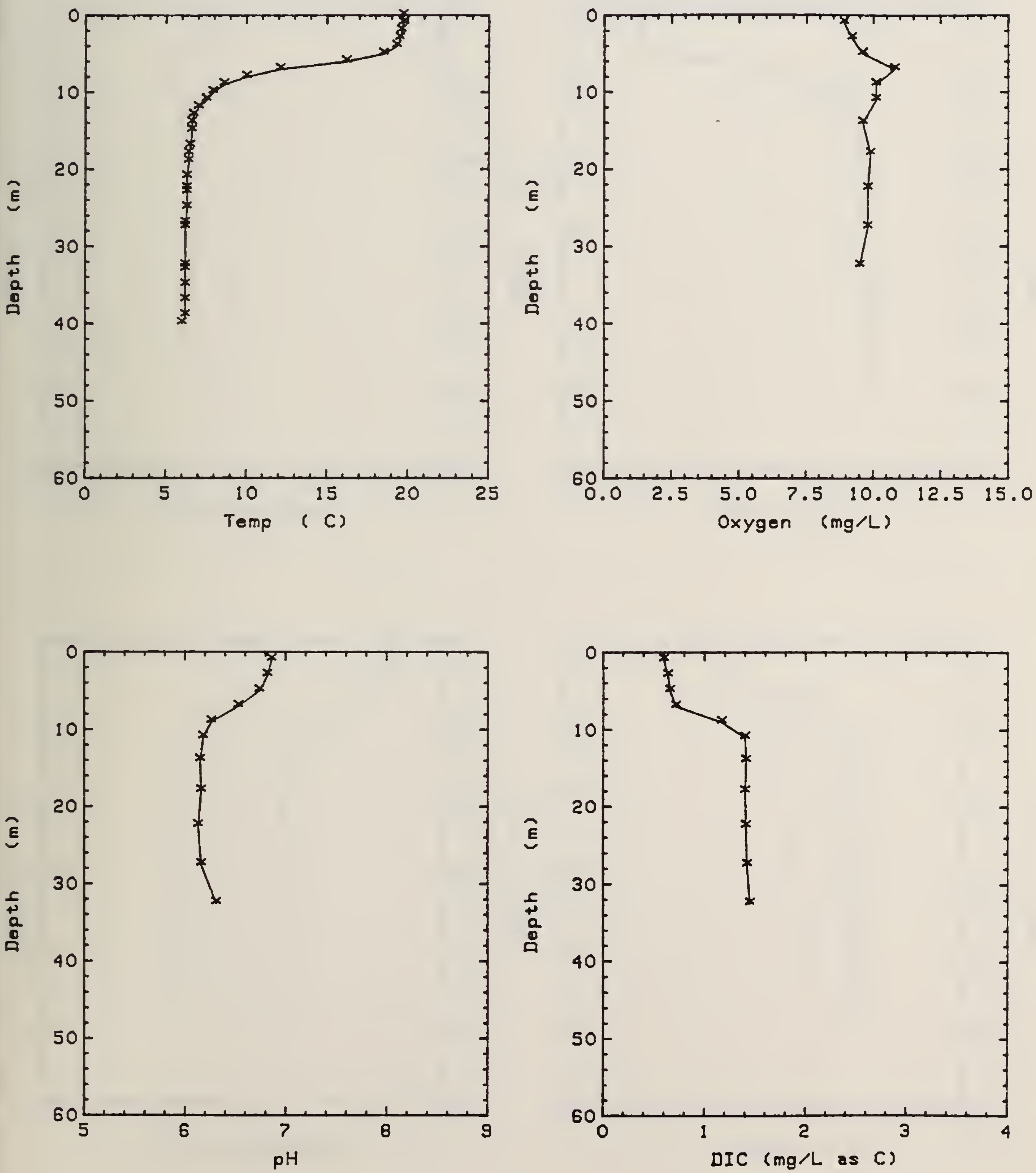

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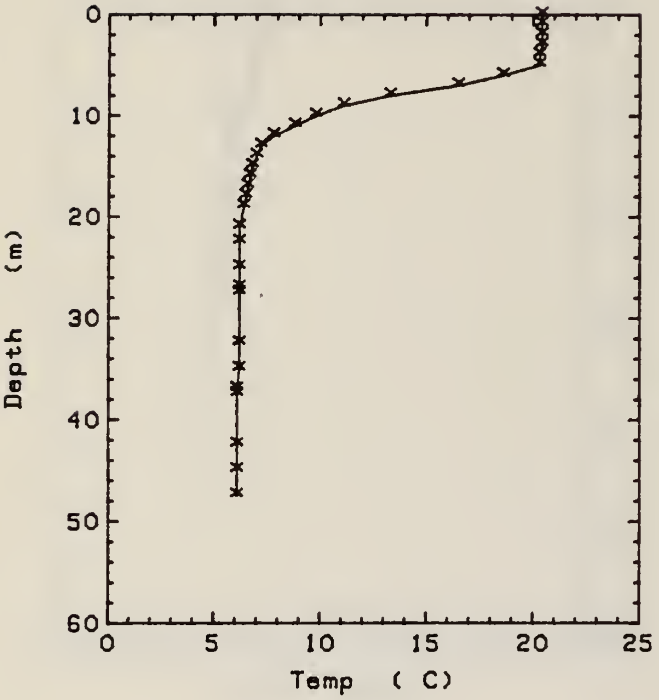

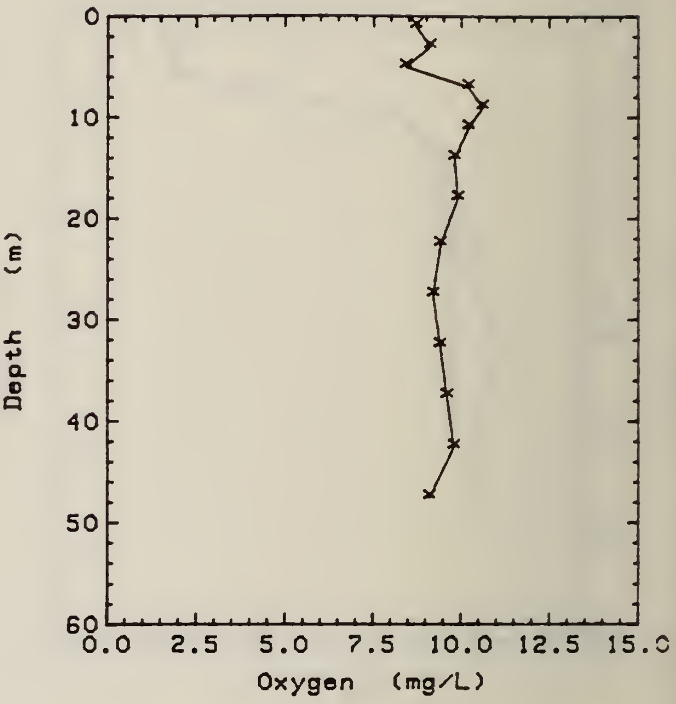

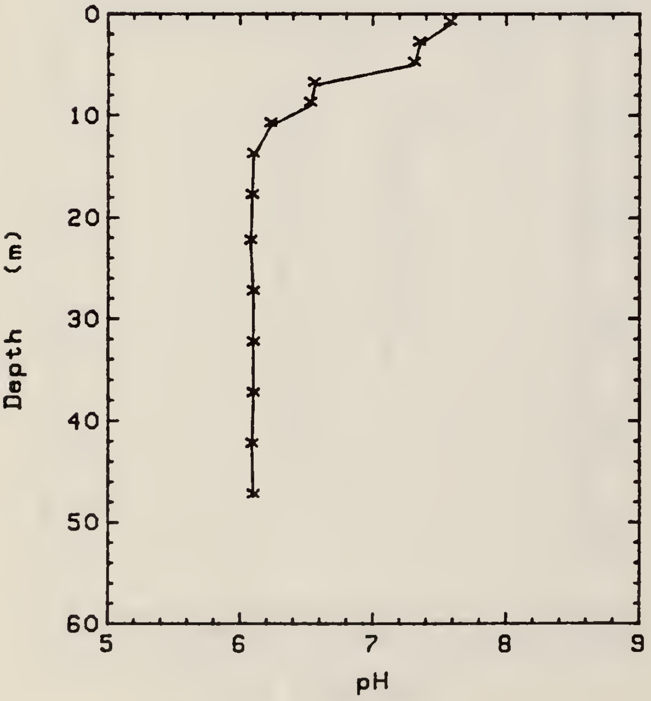

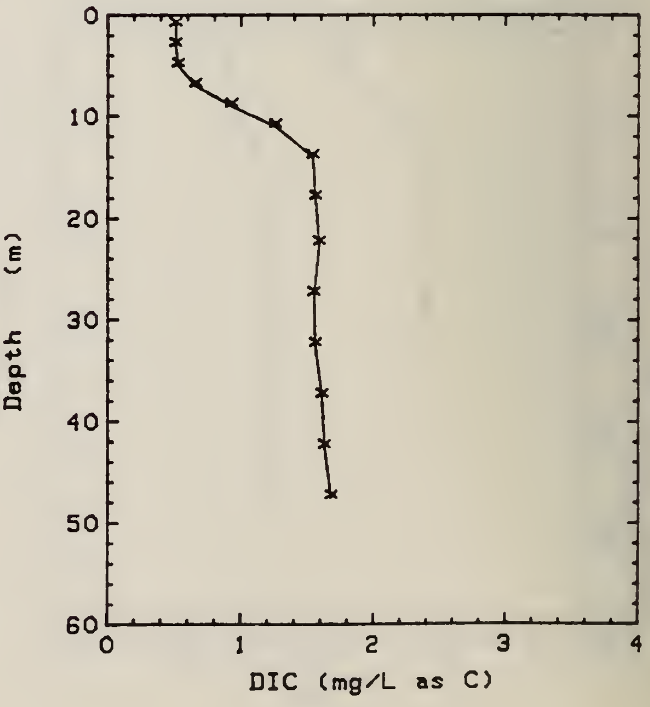

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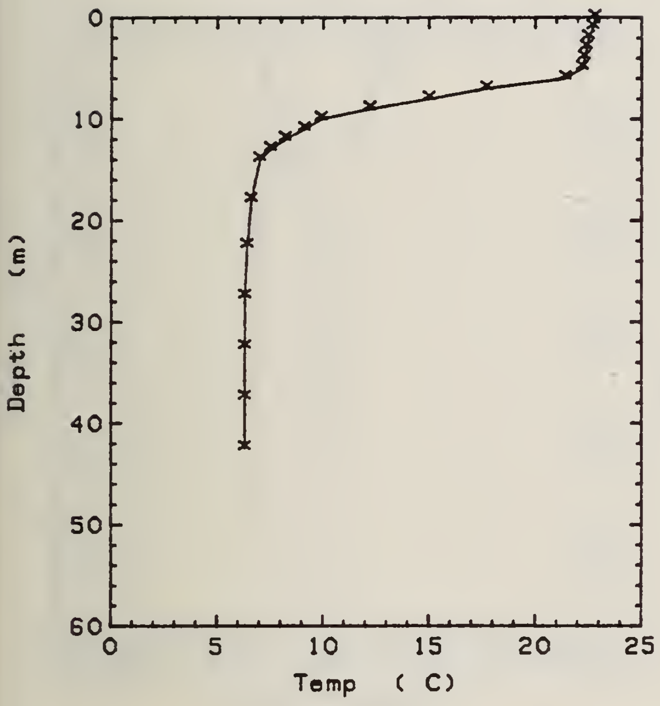

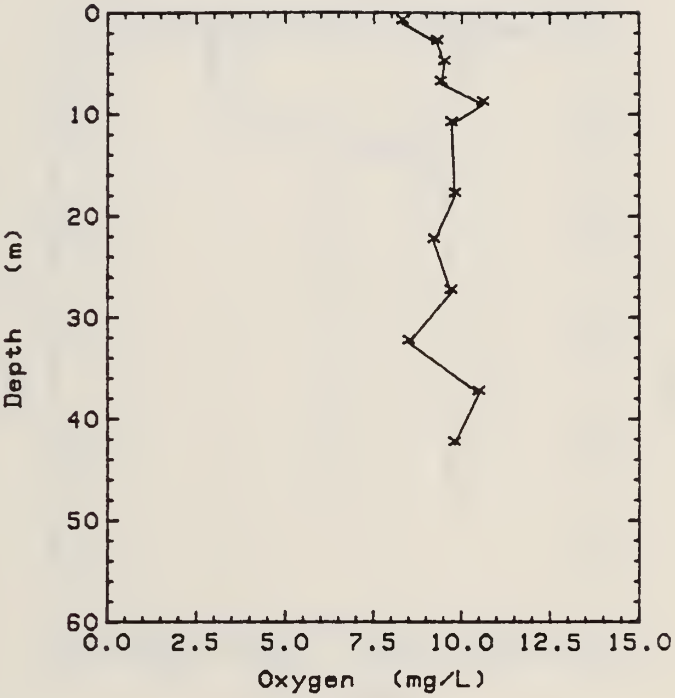

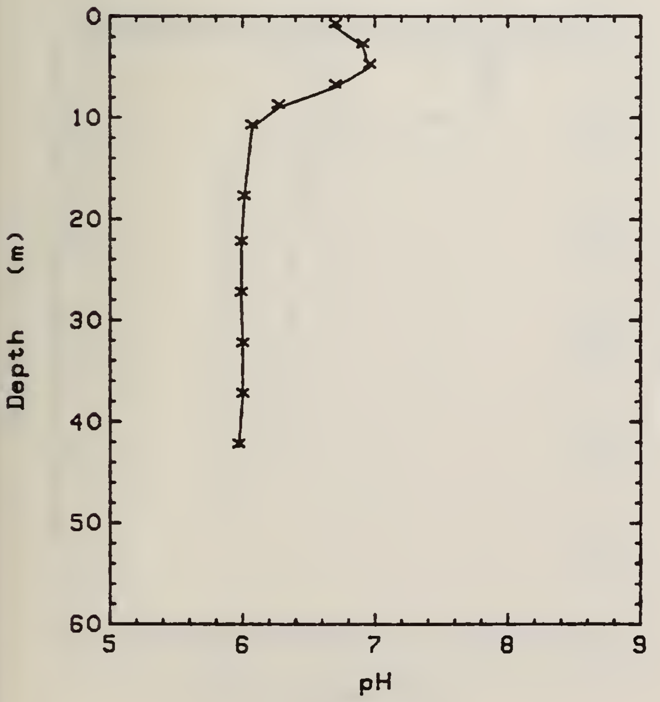

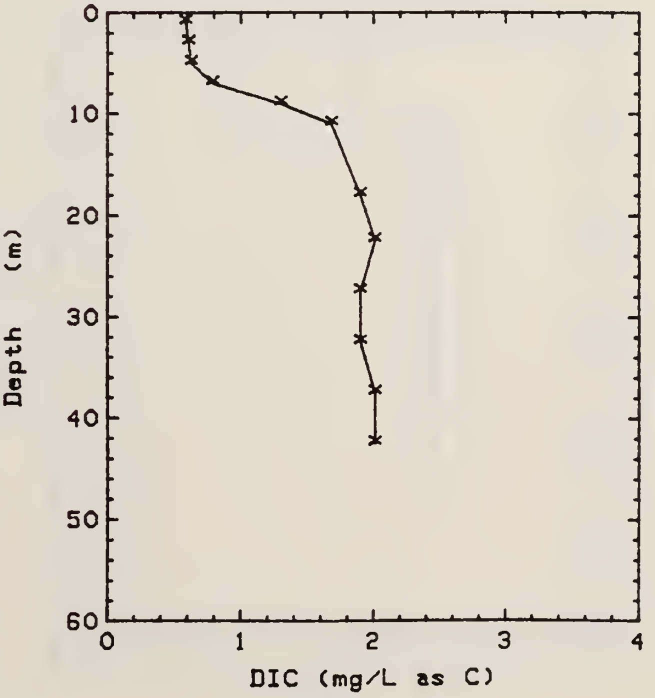

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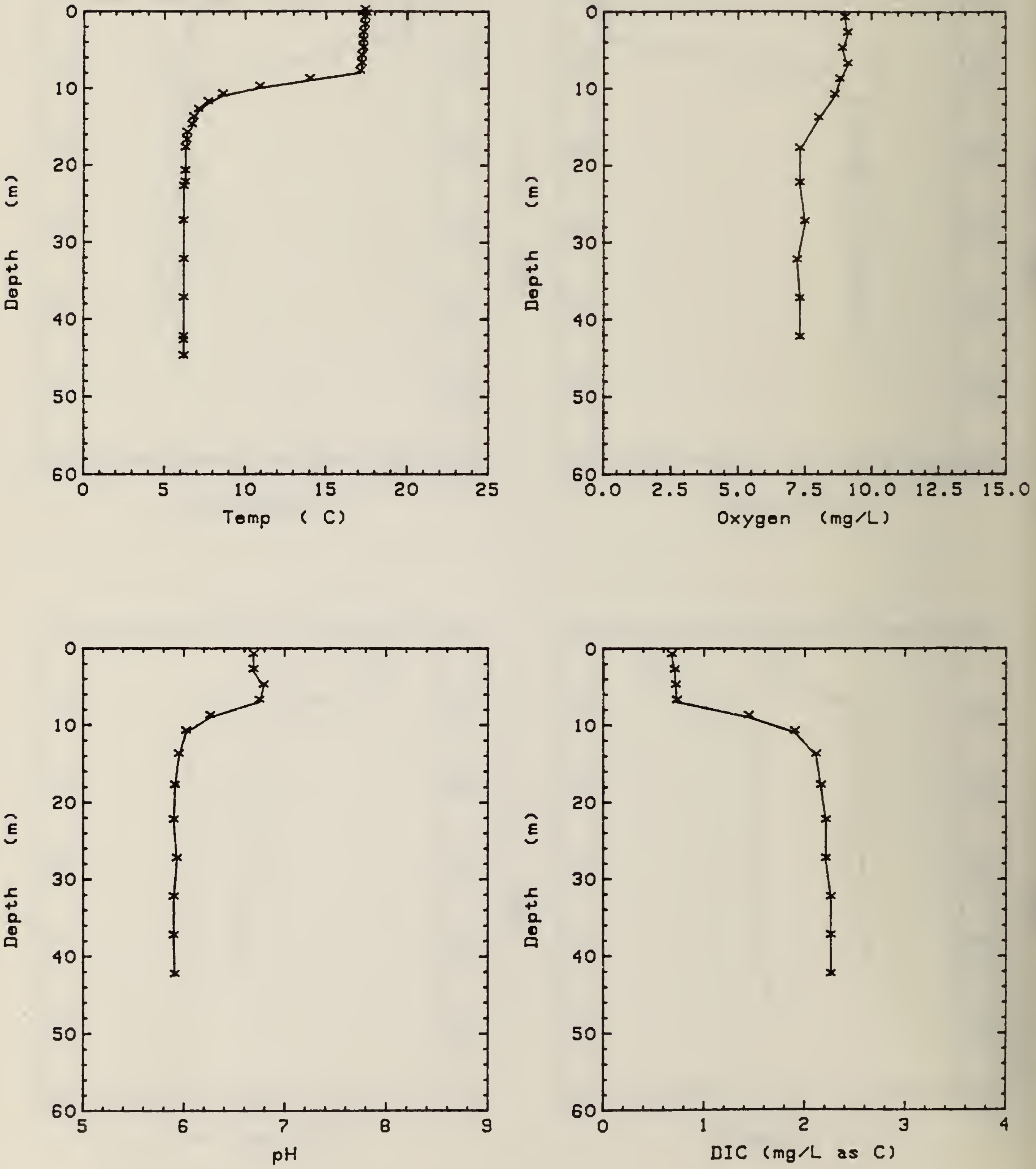

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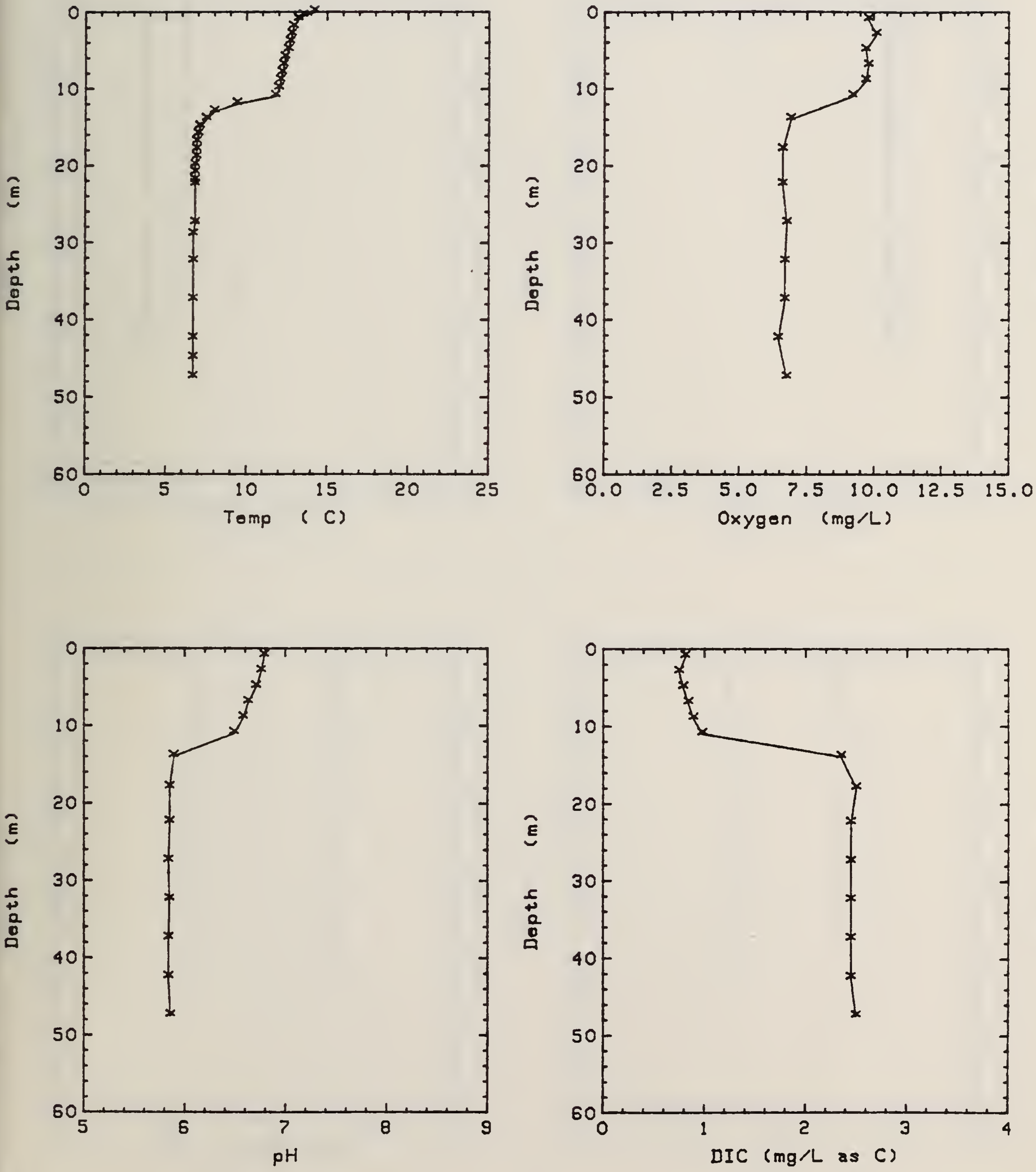

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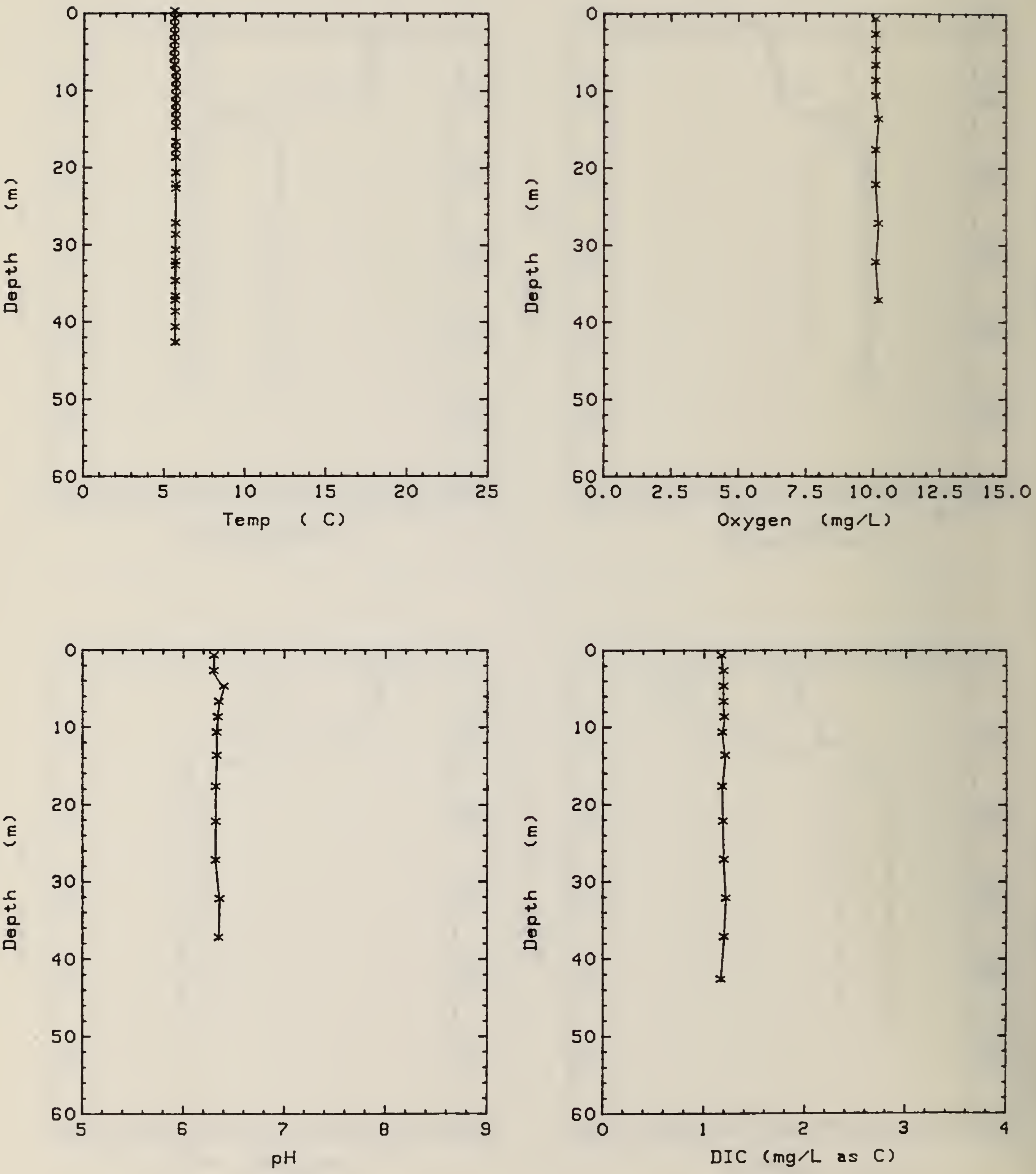

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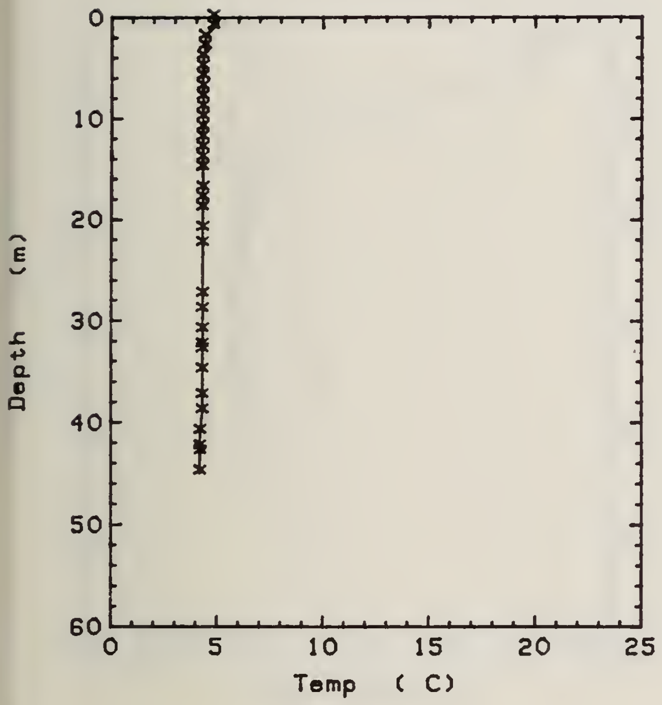

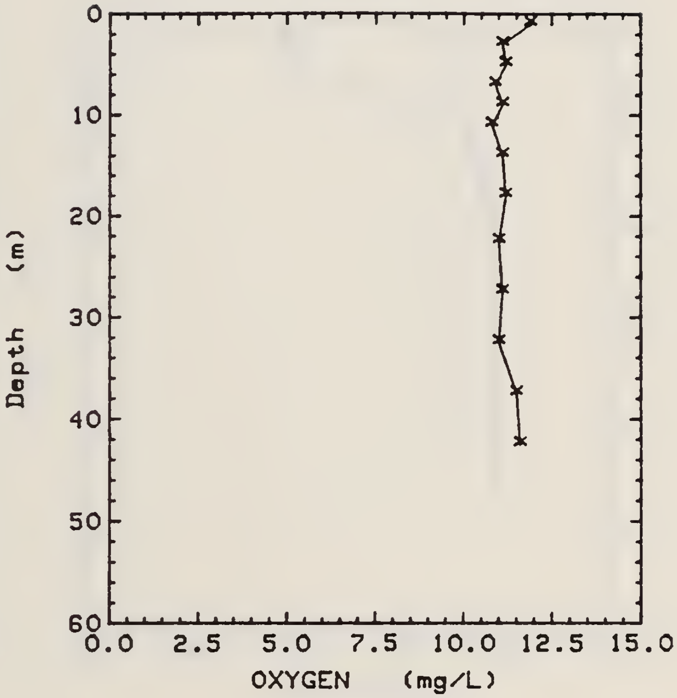

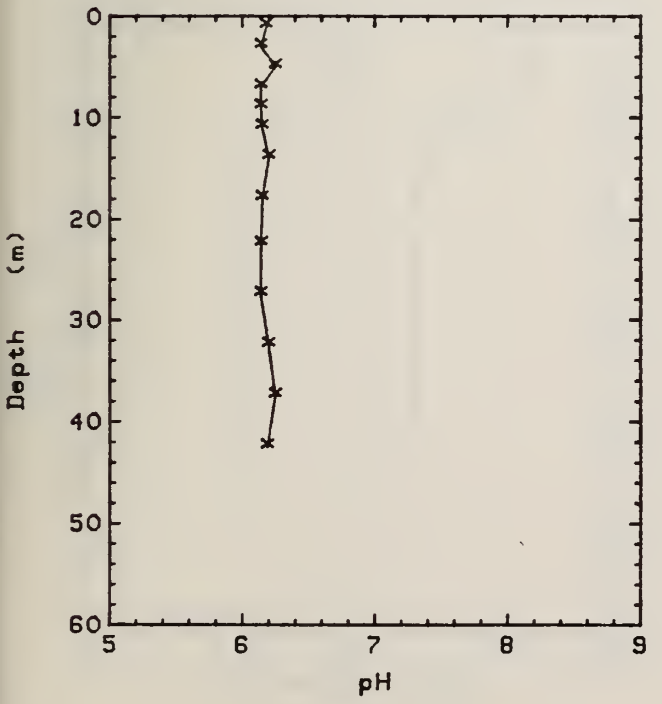

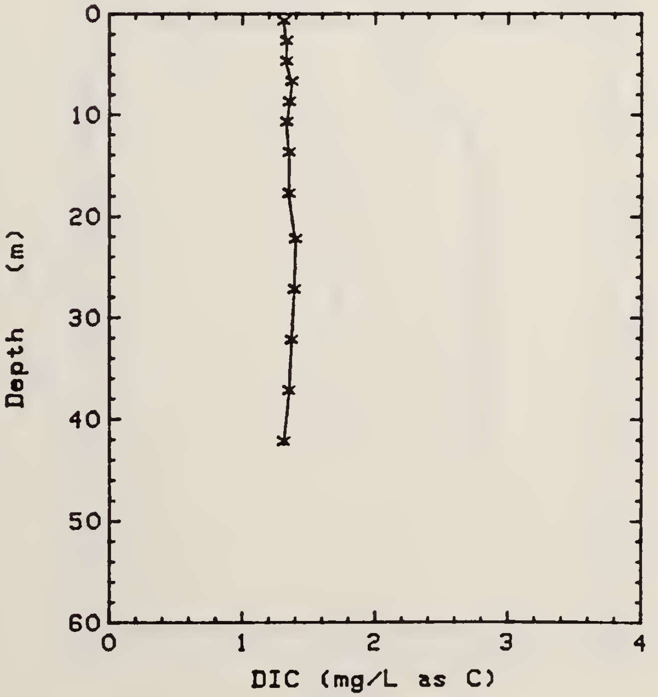

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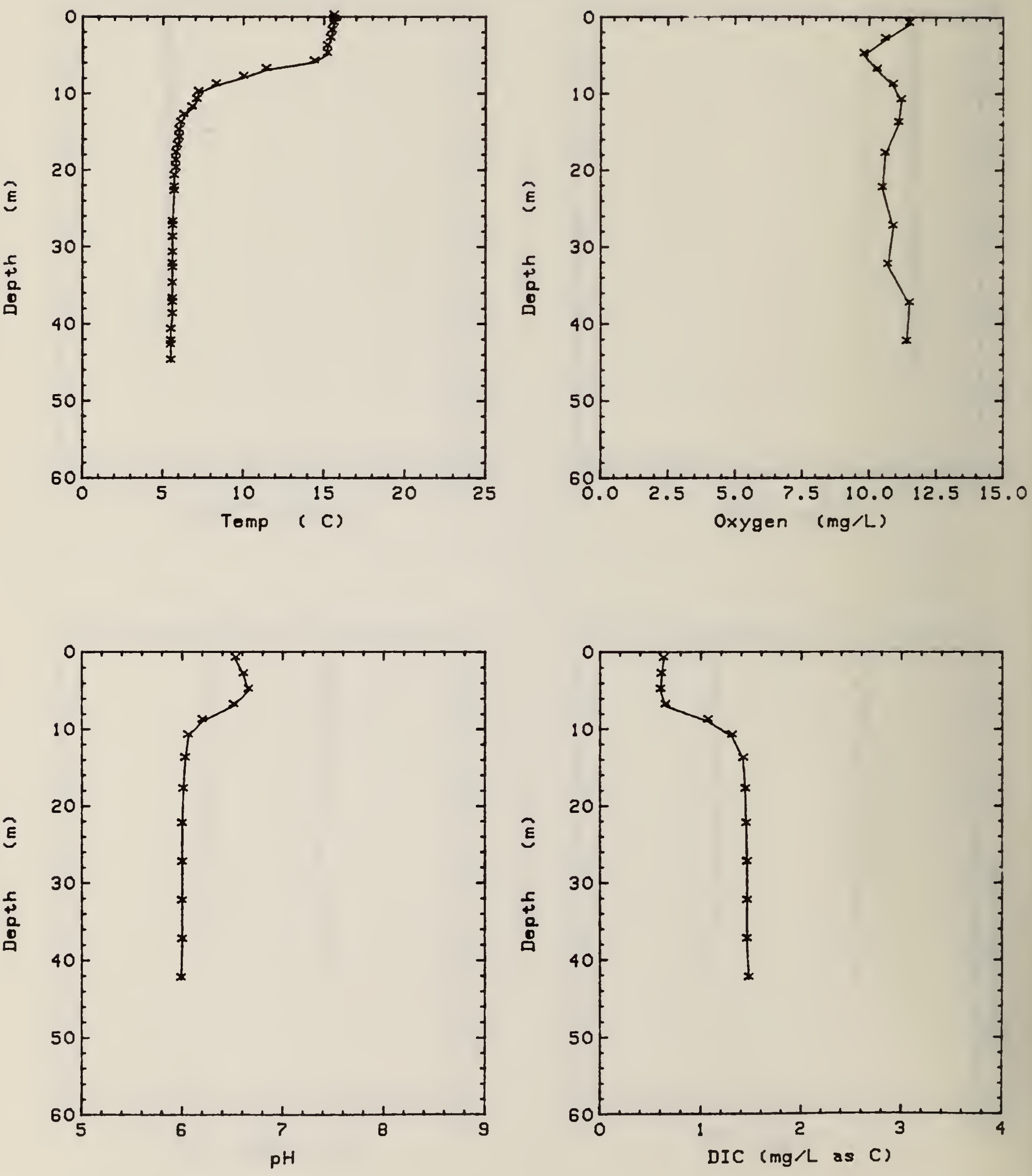

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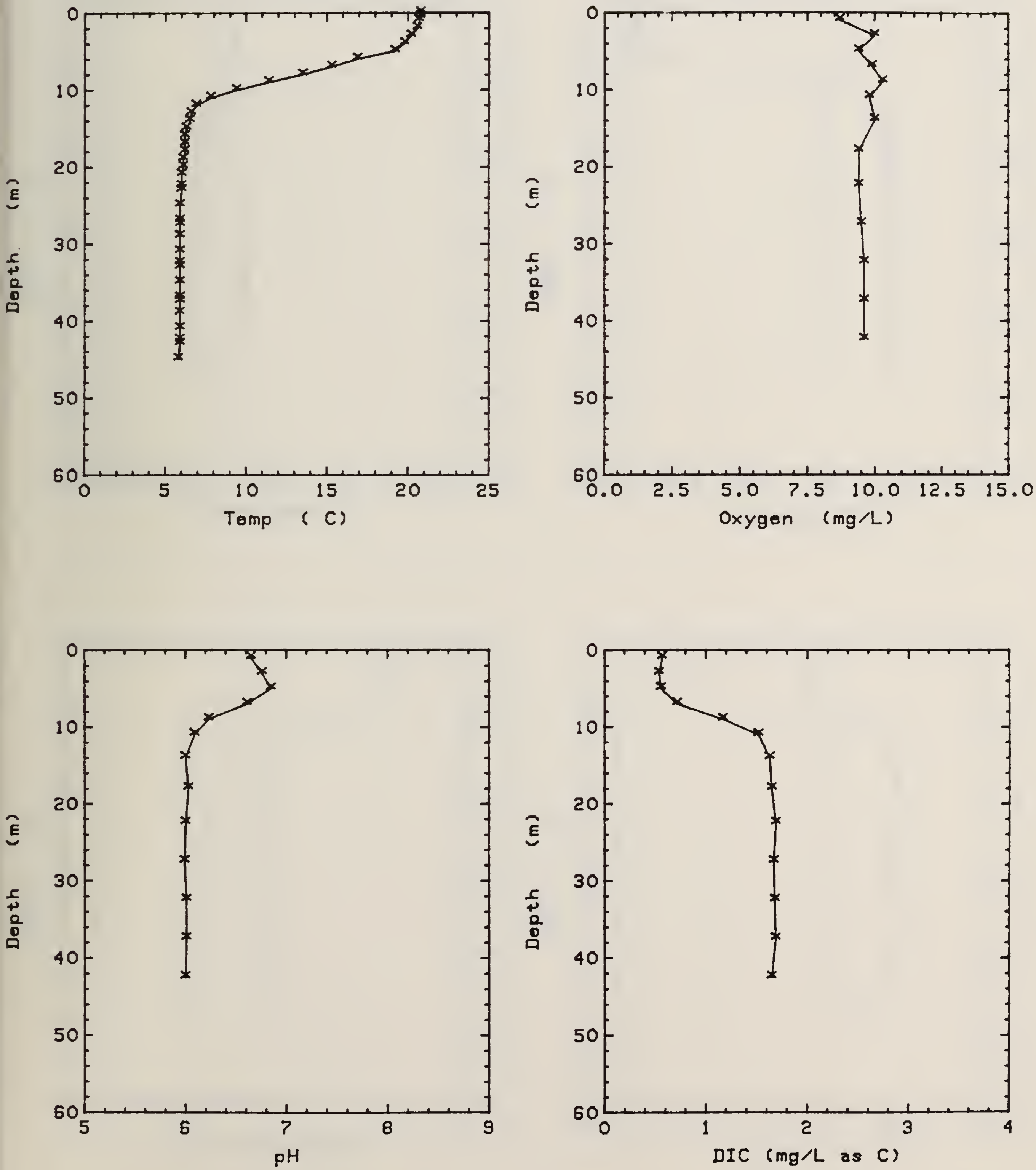

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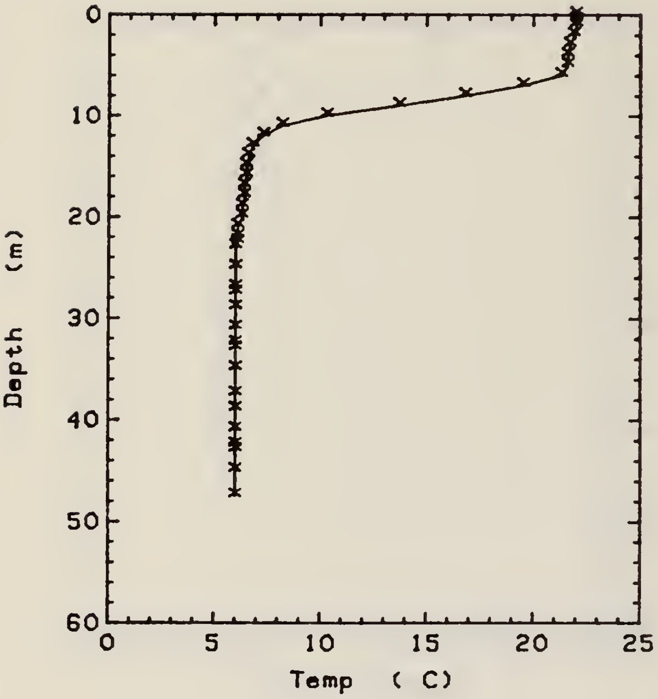

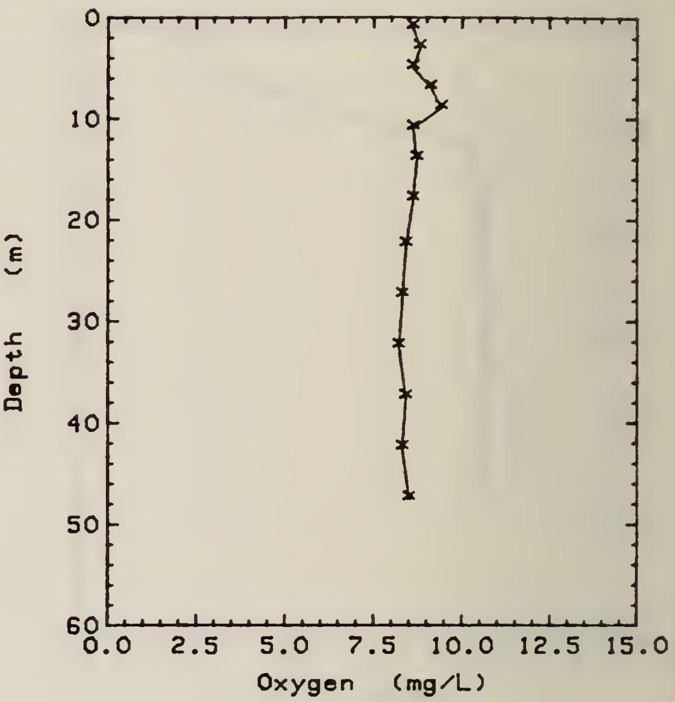

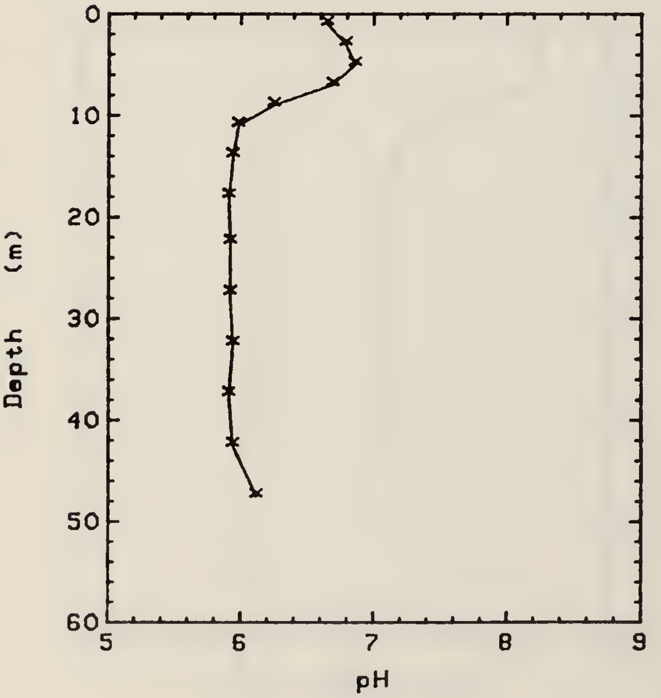

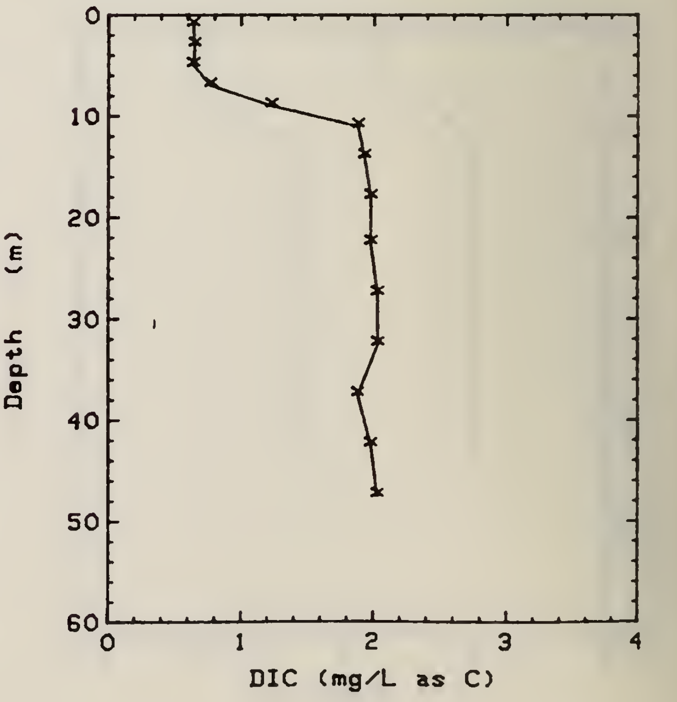

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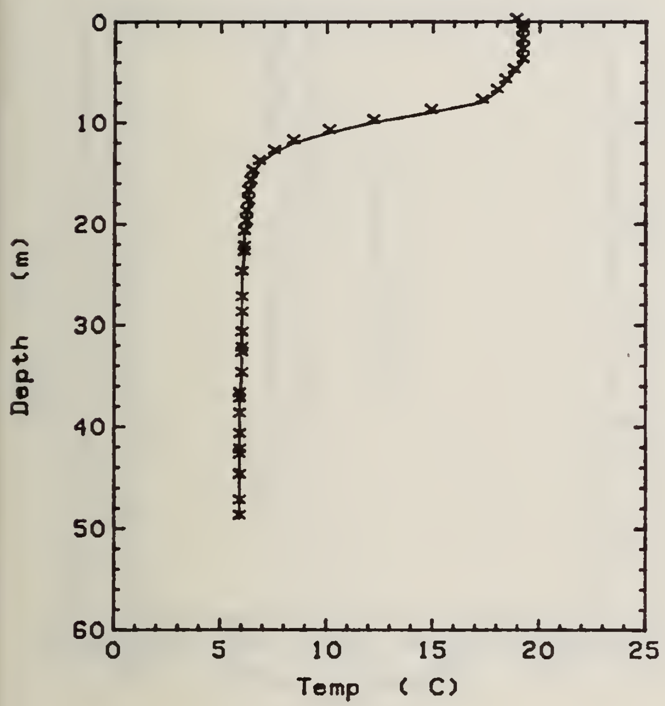

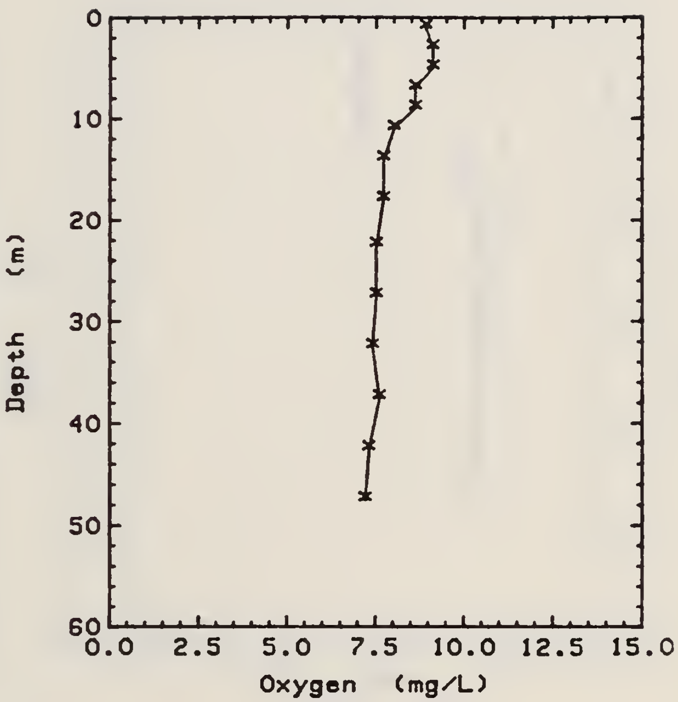

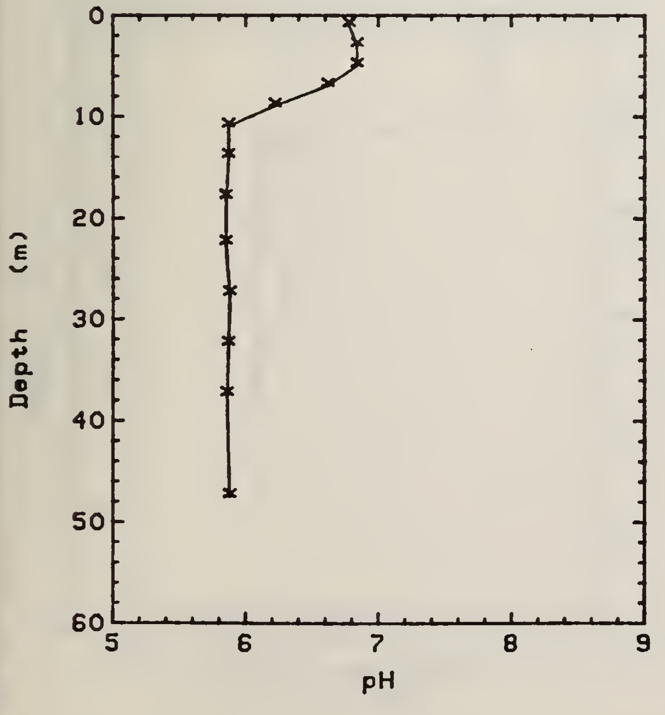

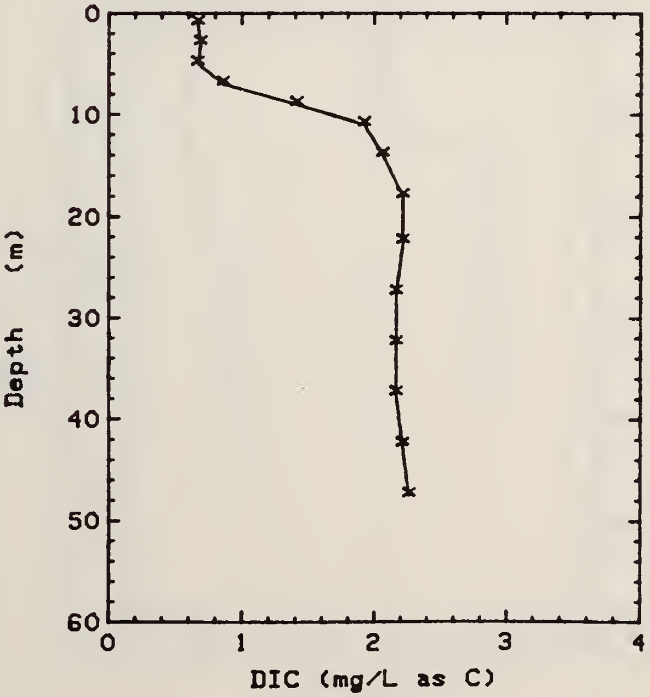

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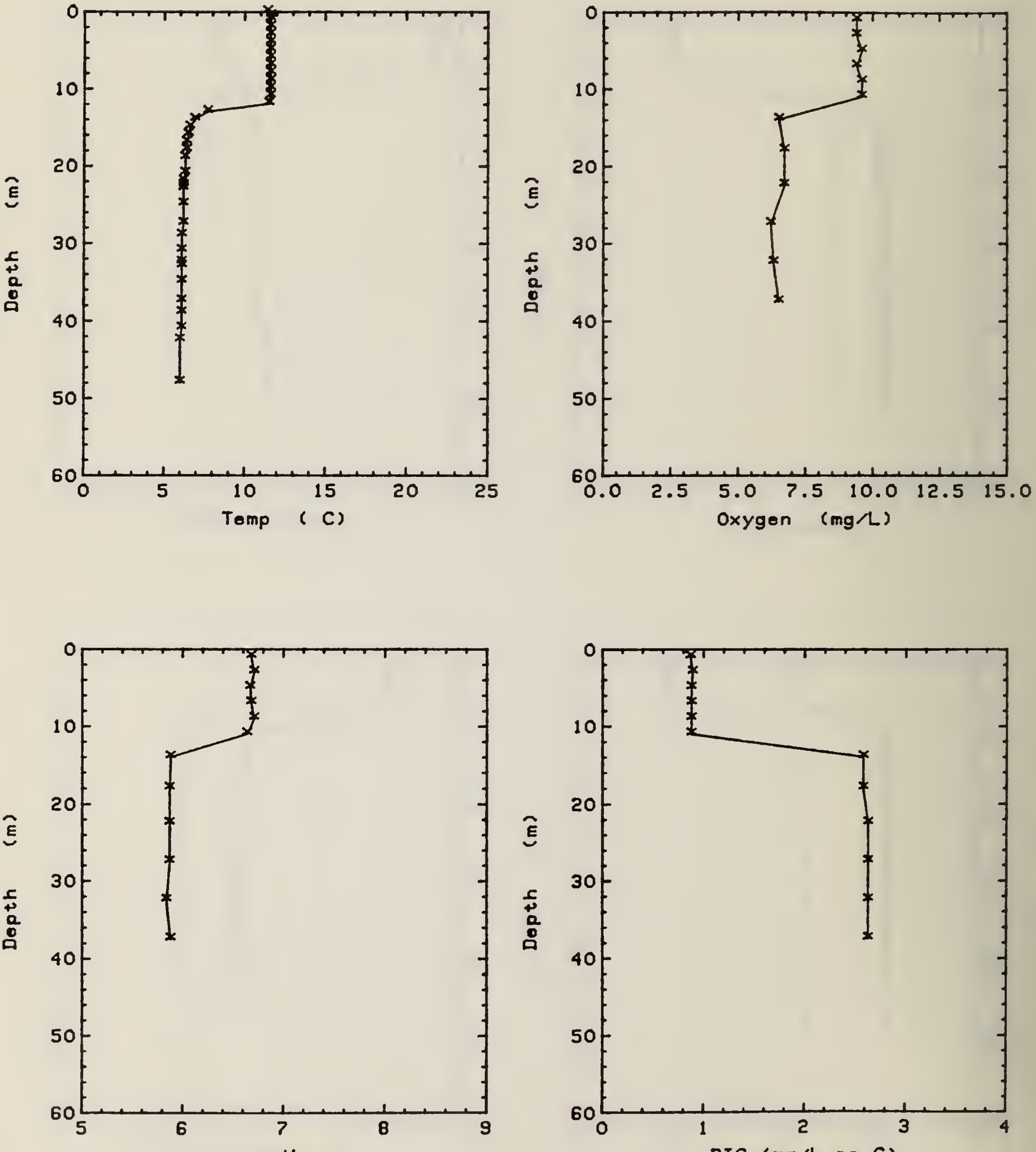
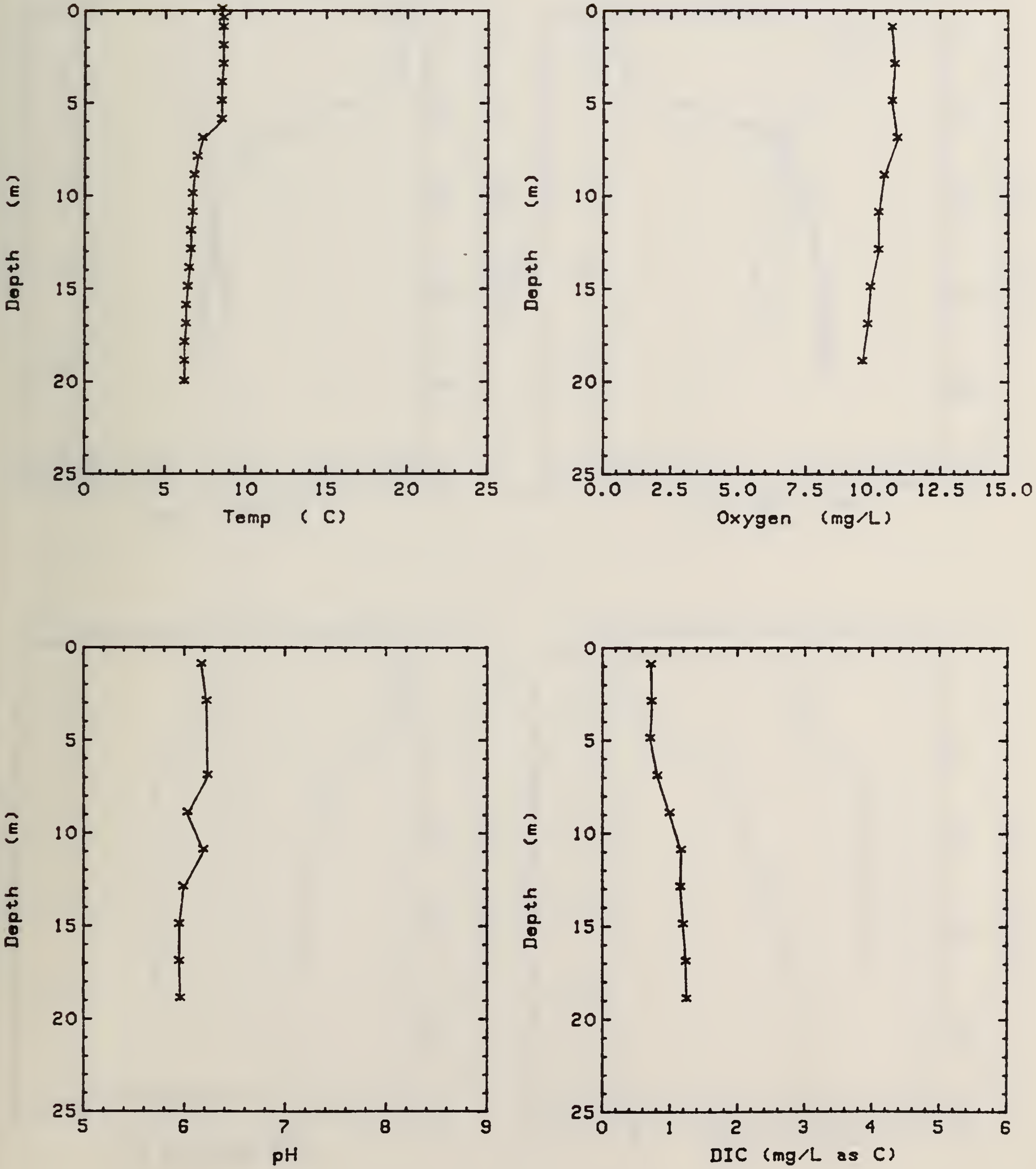


TIMBERWOLF 84.05.15



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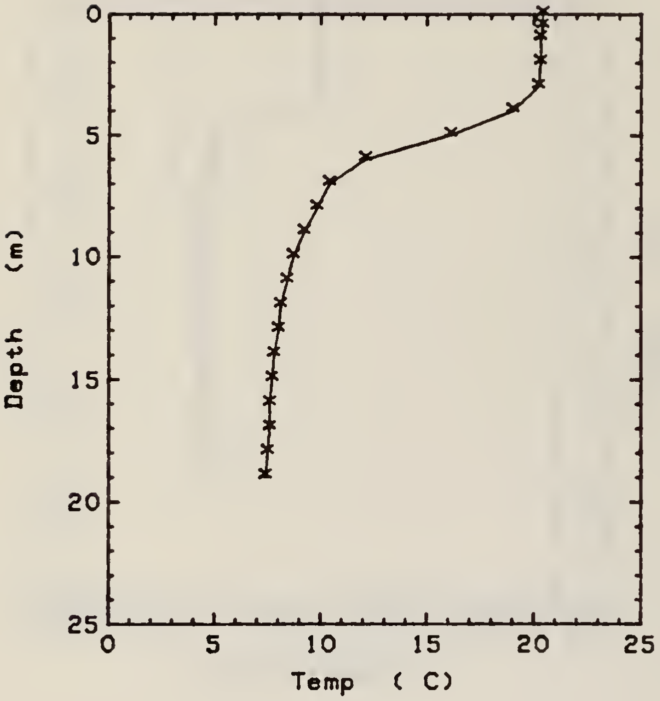

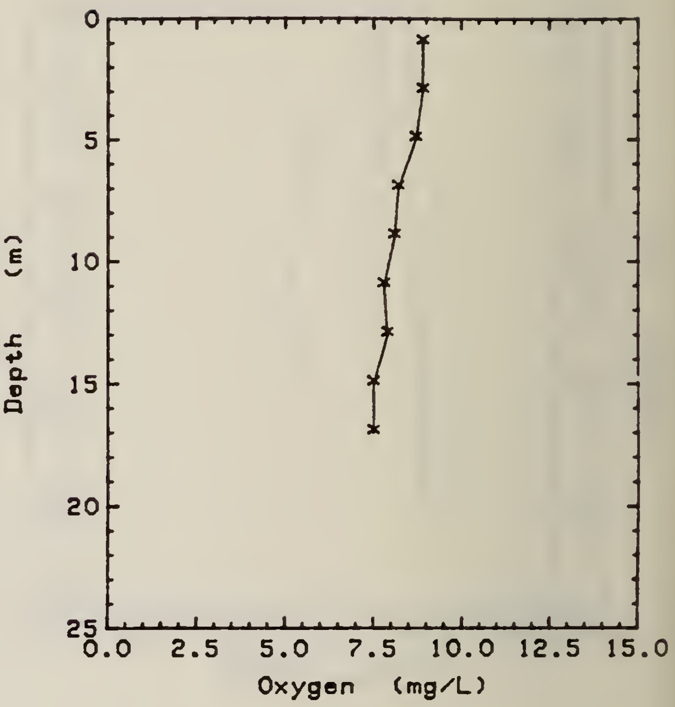

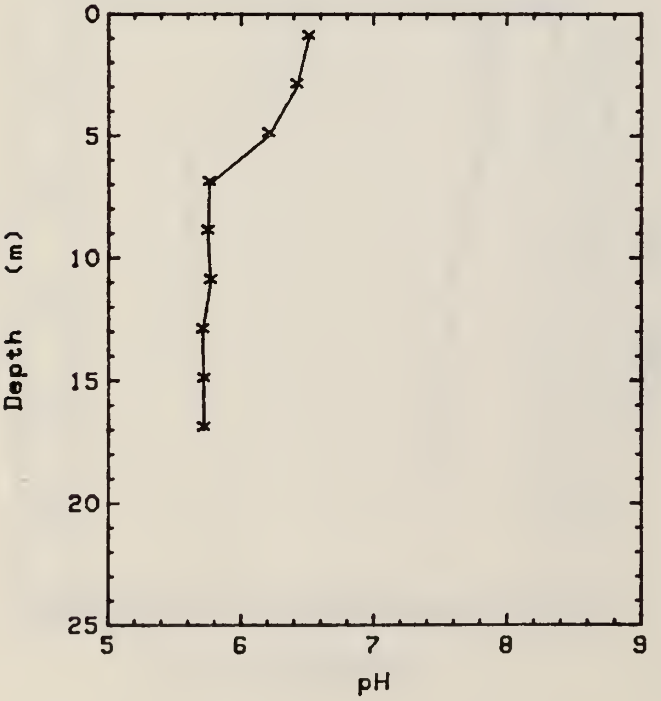

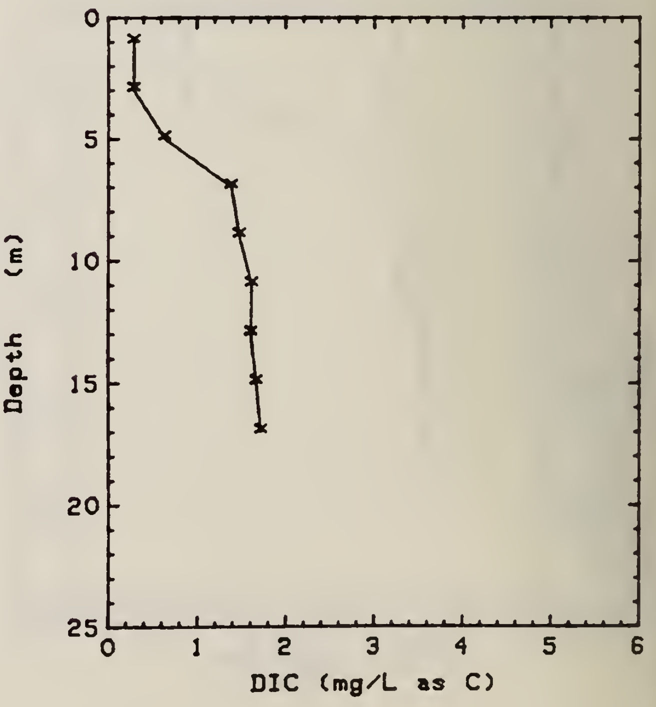

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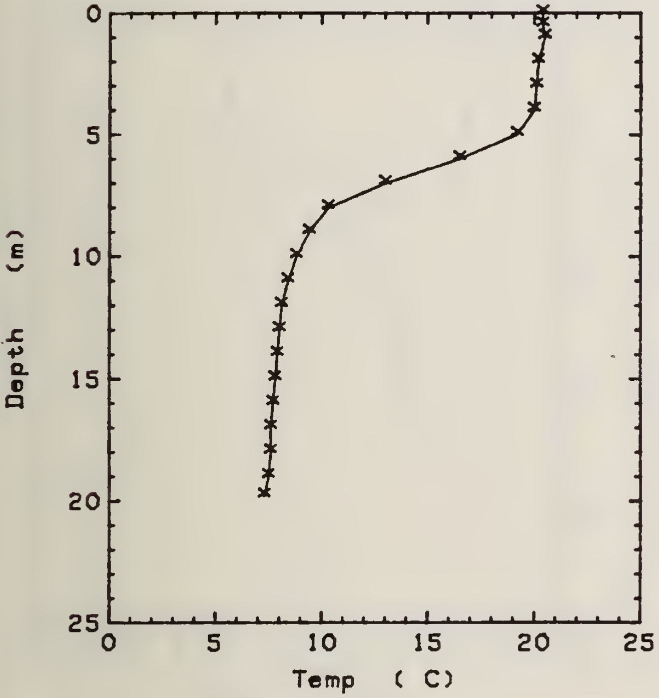

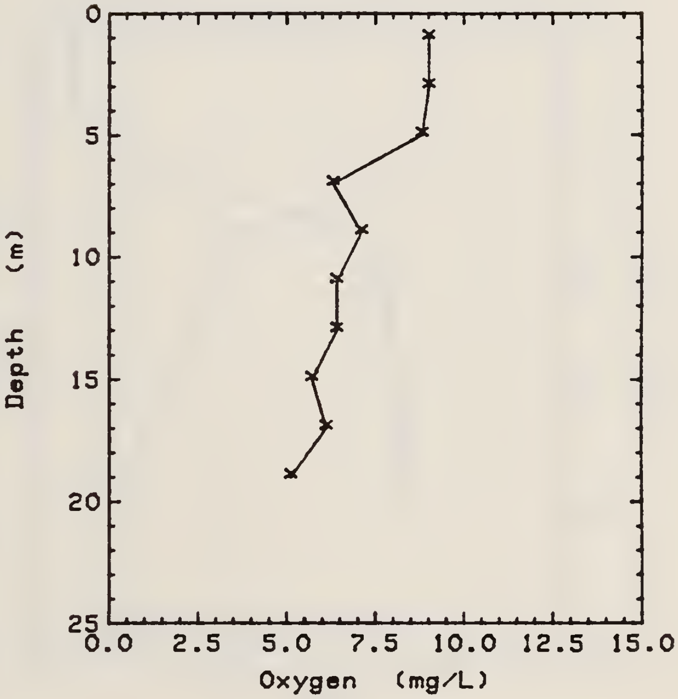

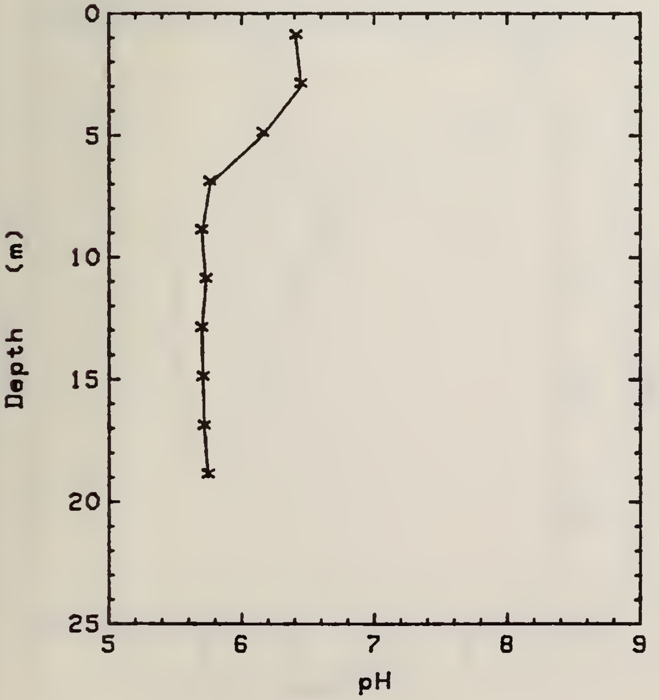

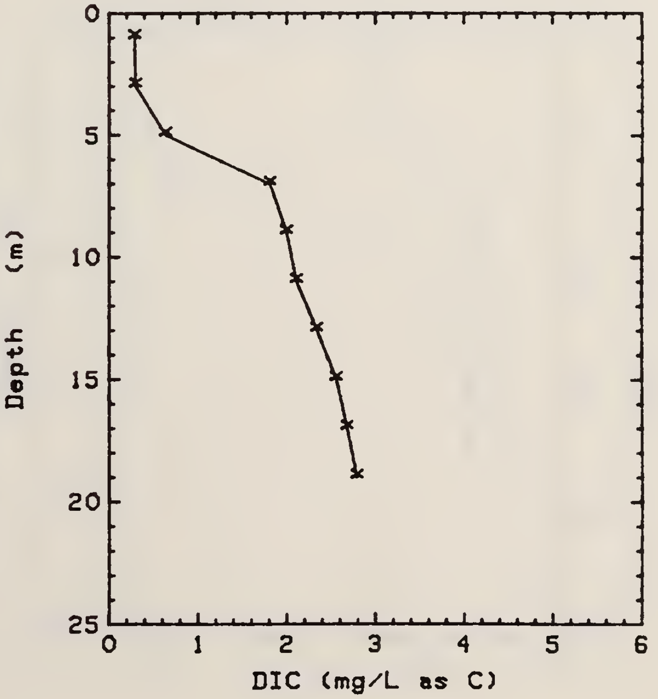

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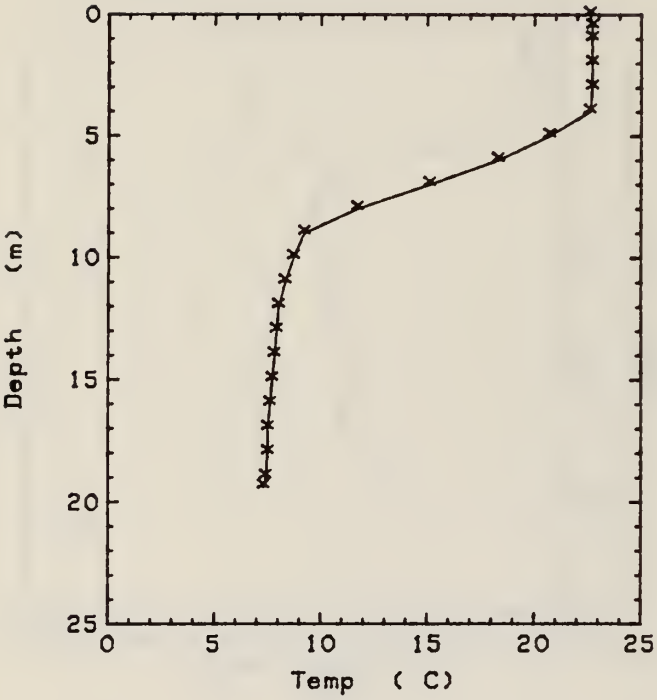

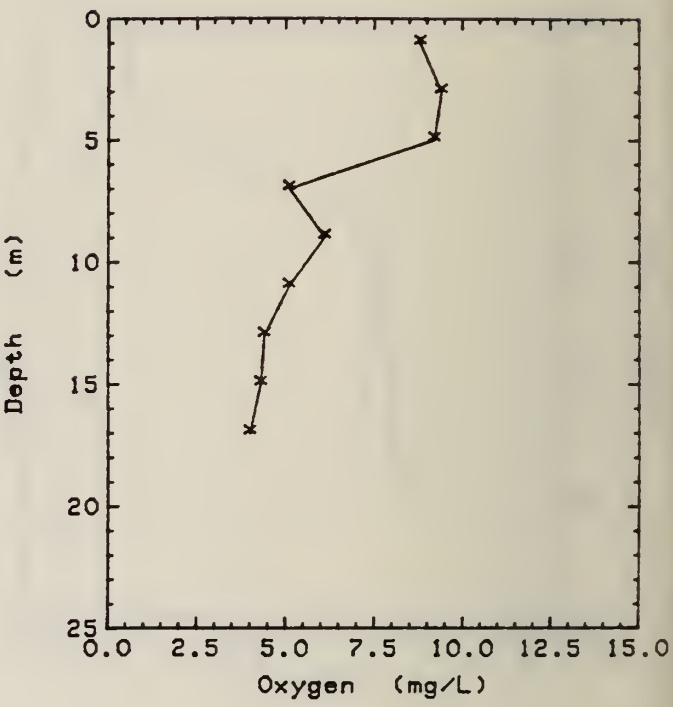

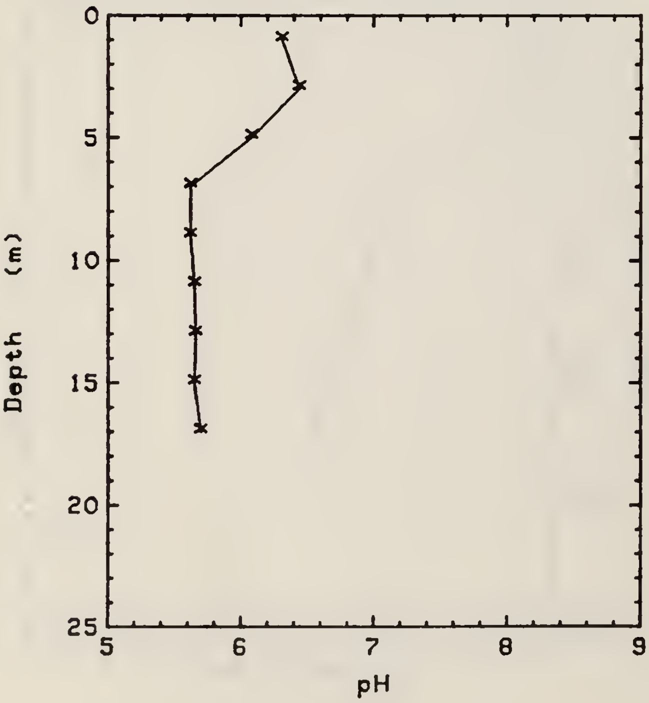

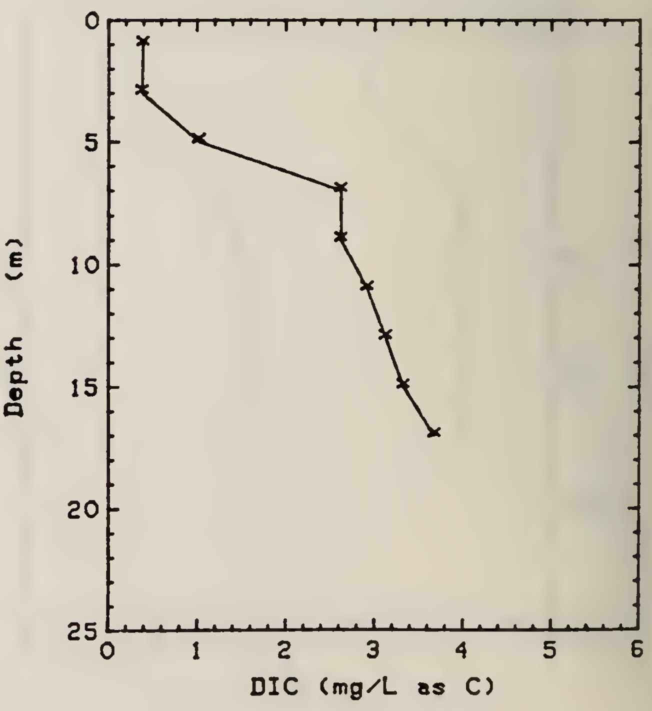

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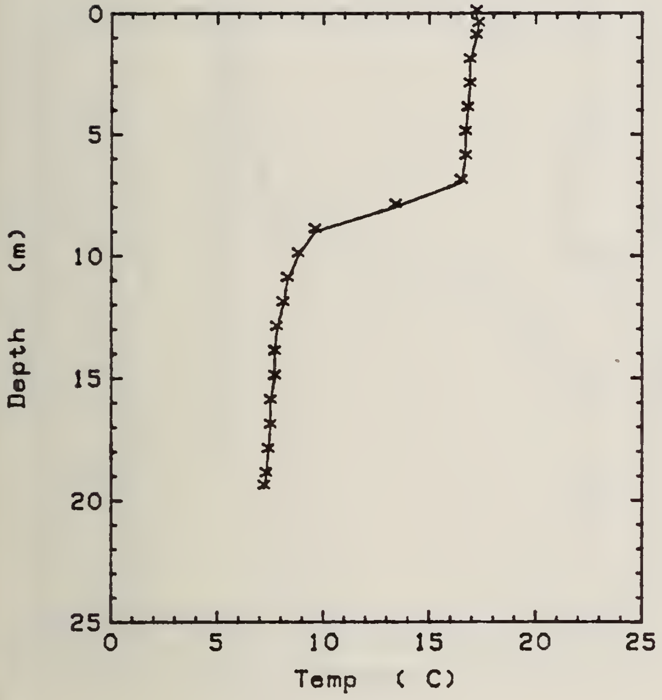

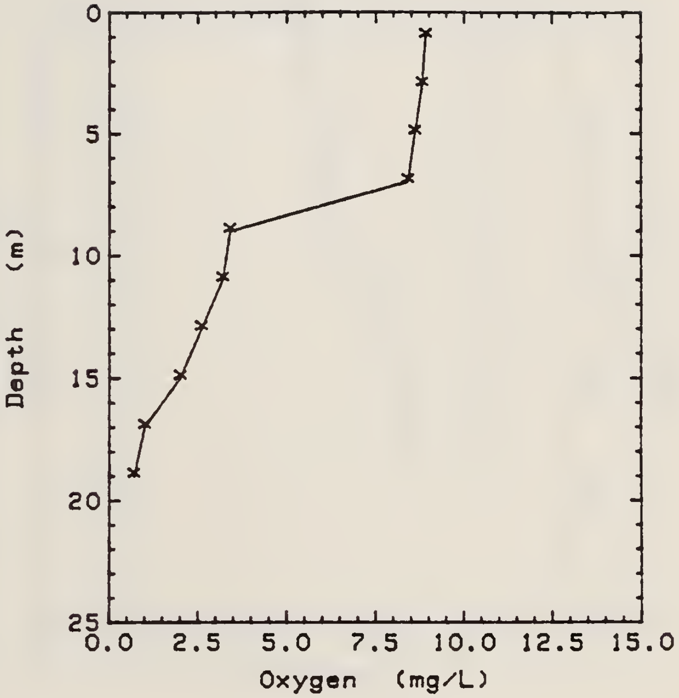

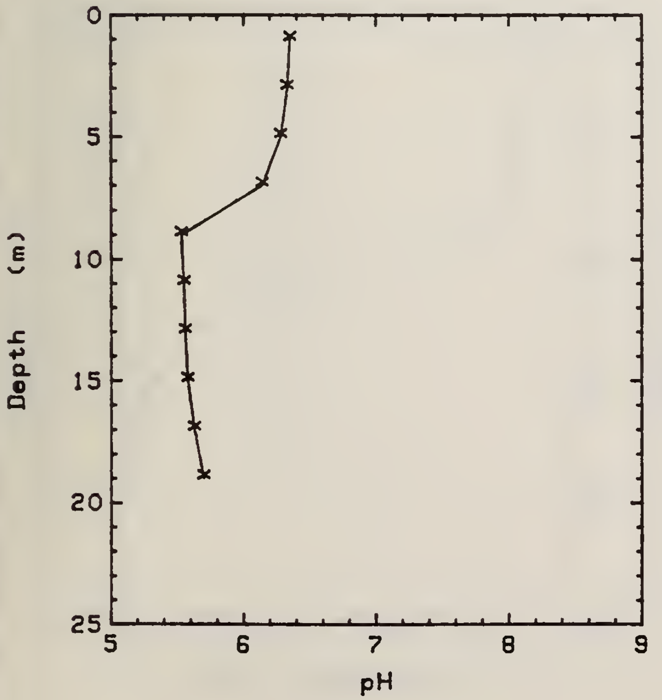

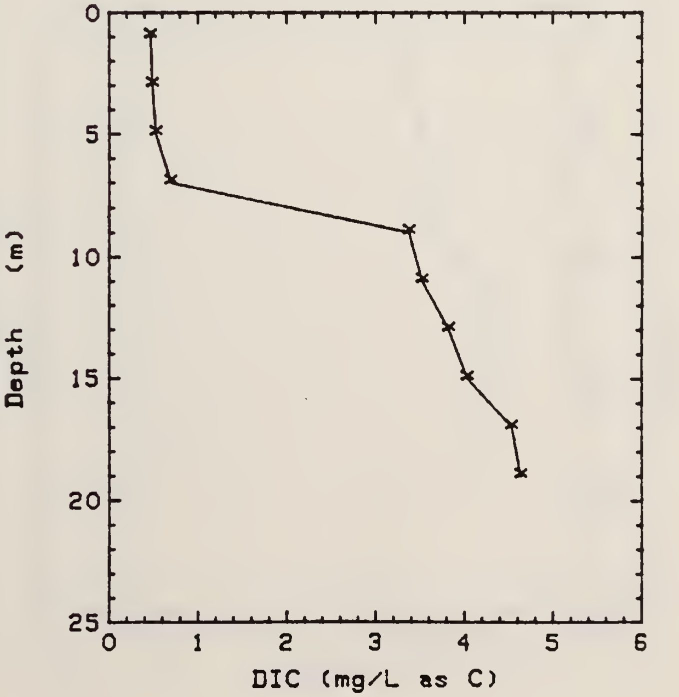

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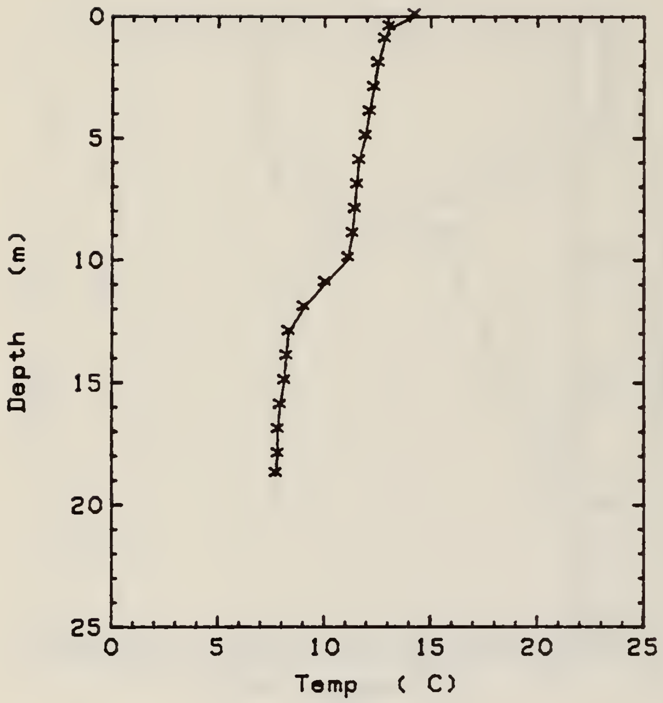

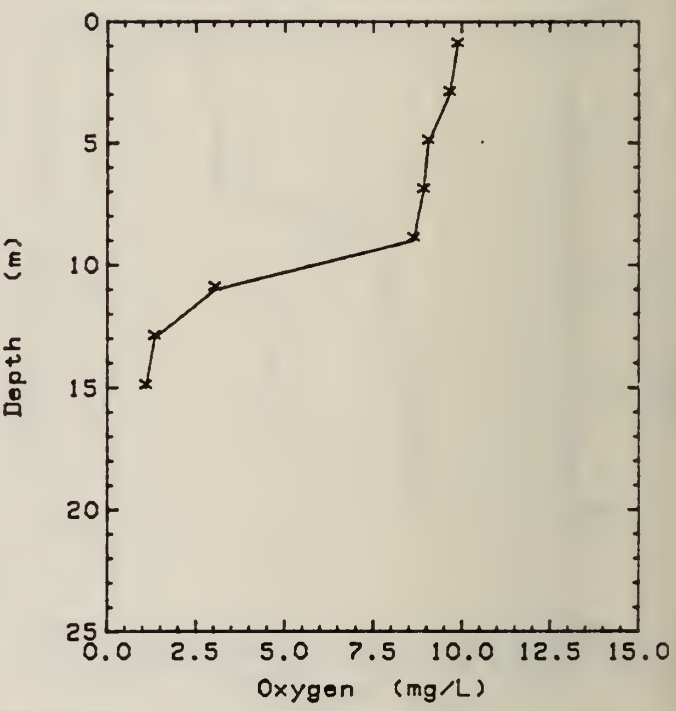

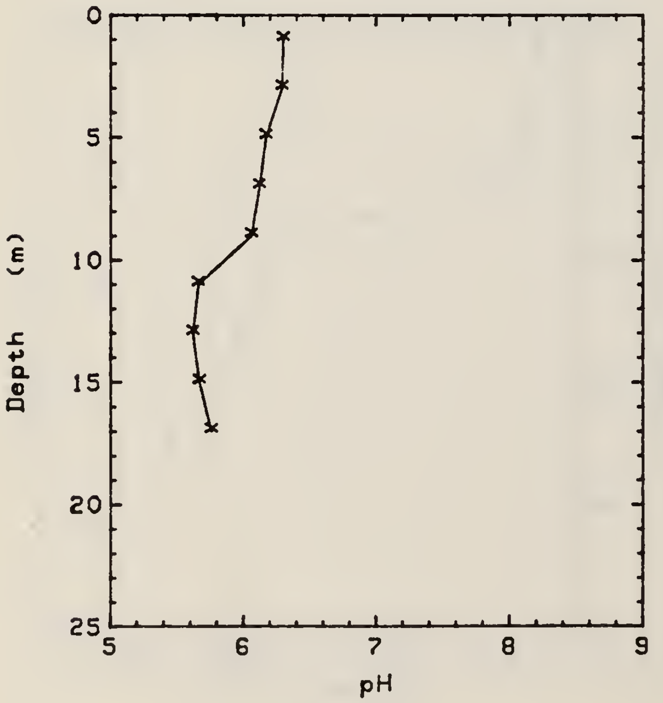

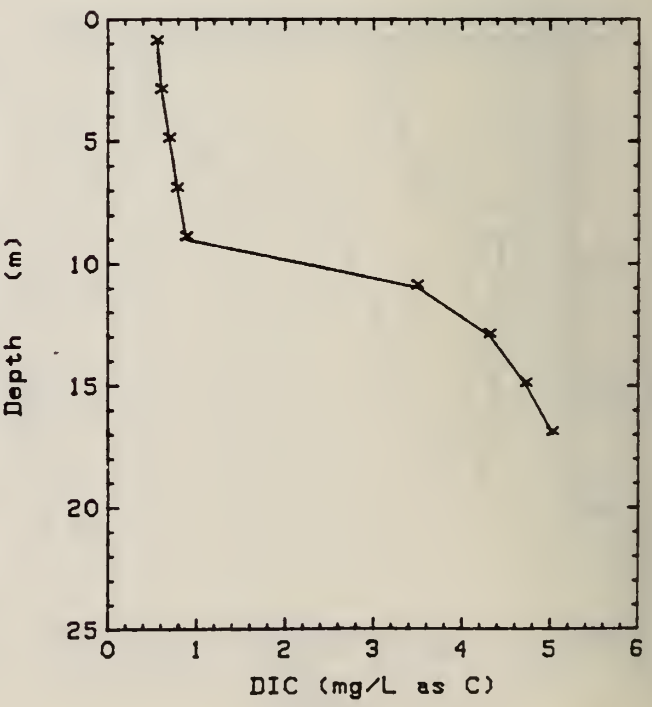

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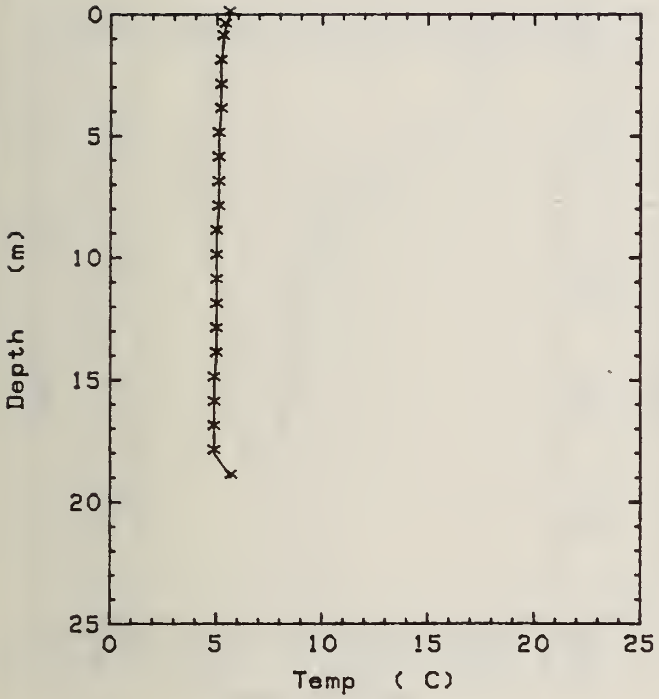

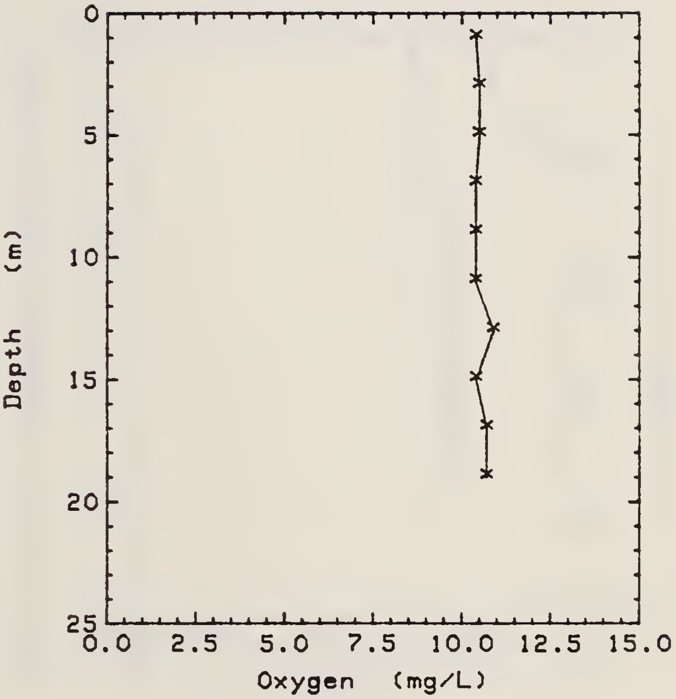

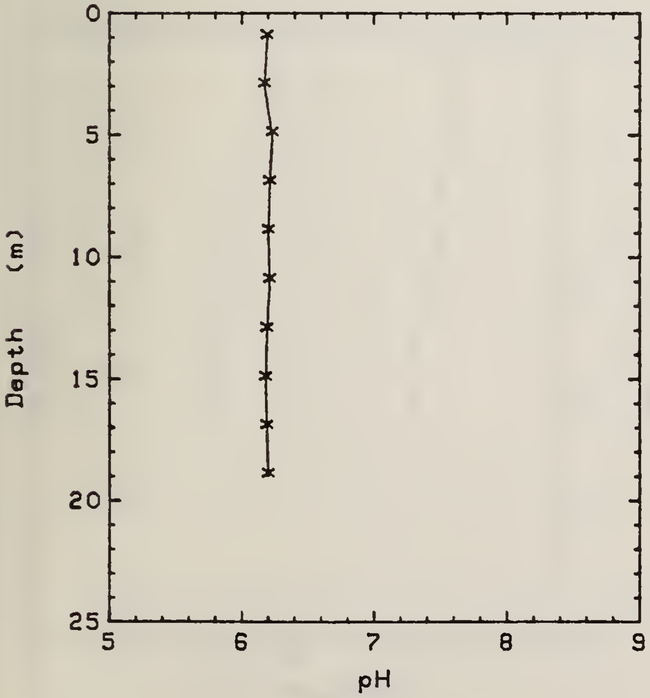

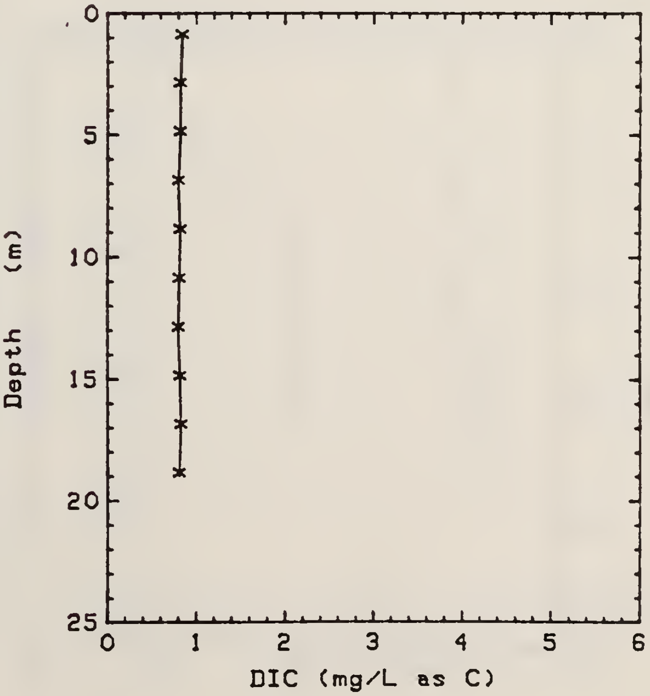

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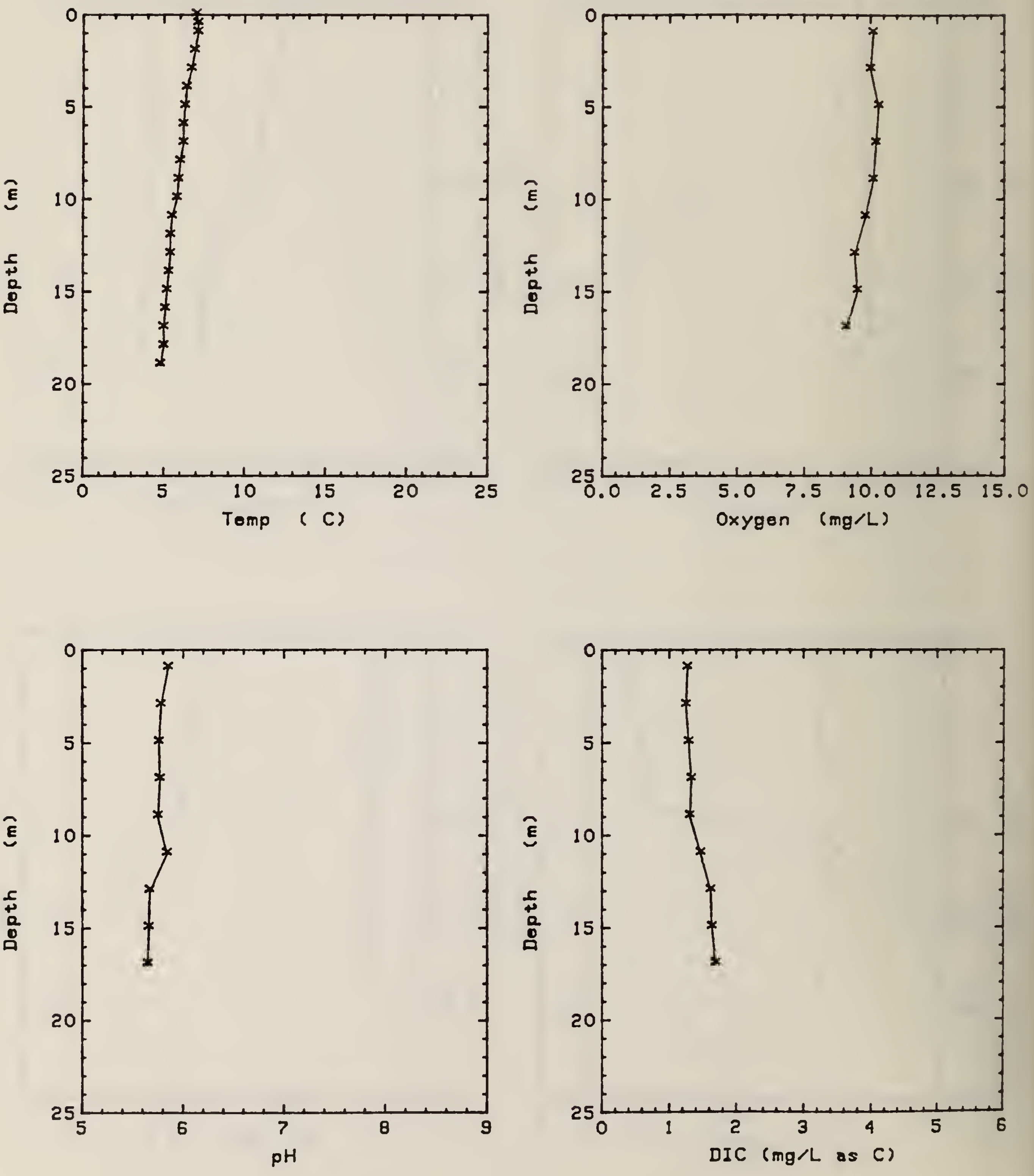

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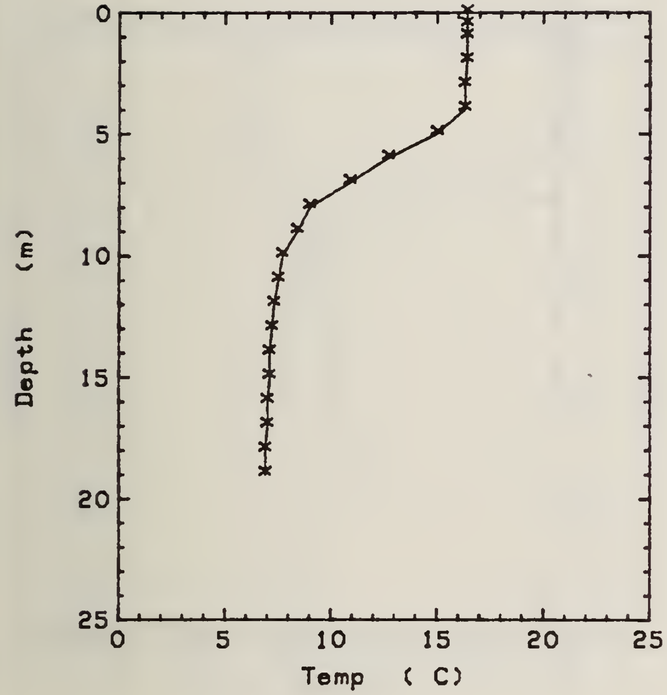

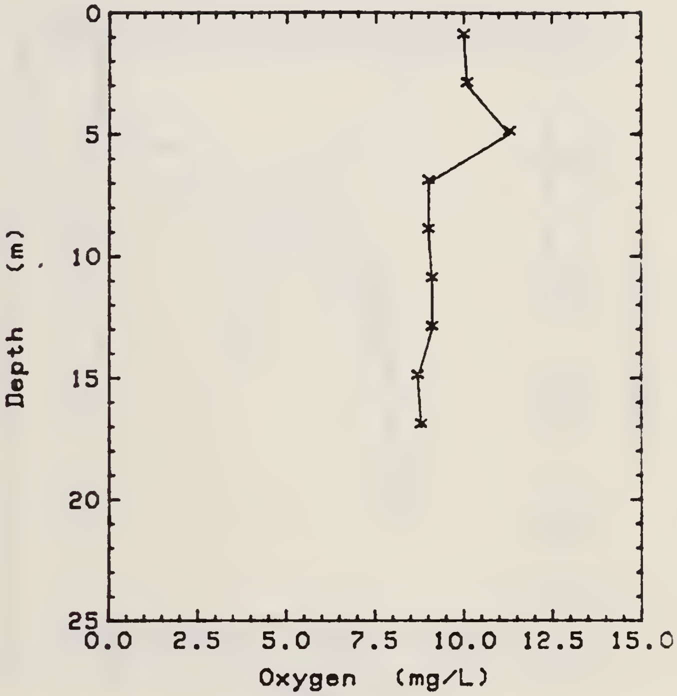

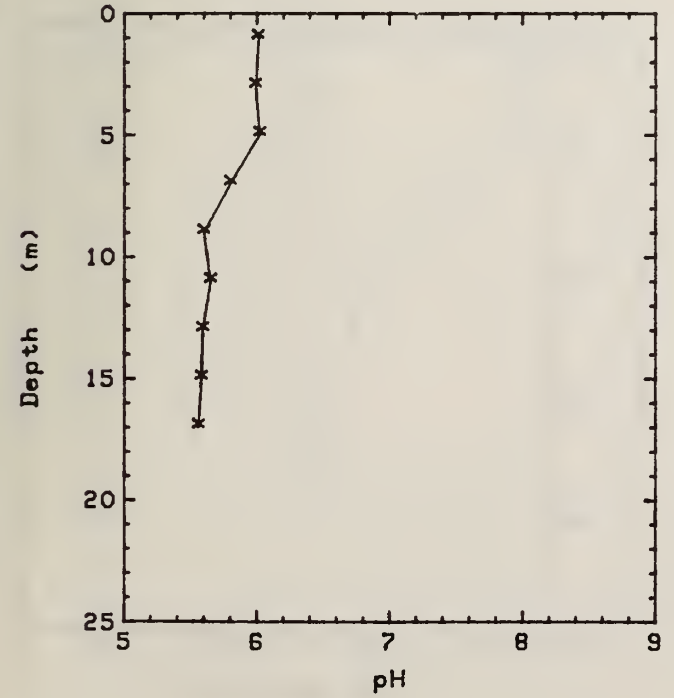

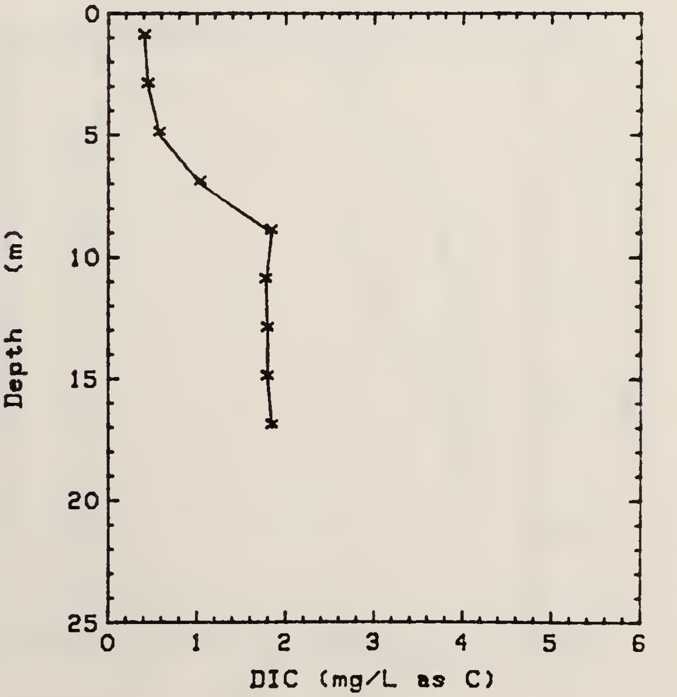

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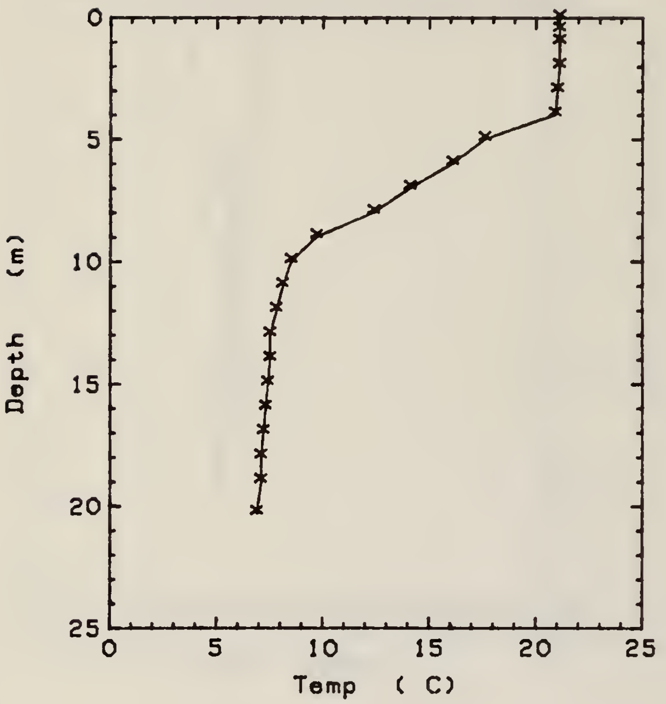

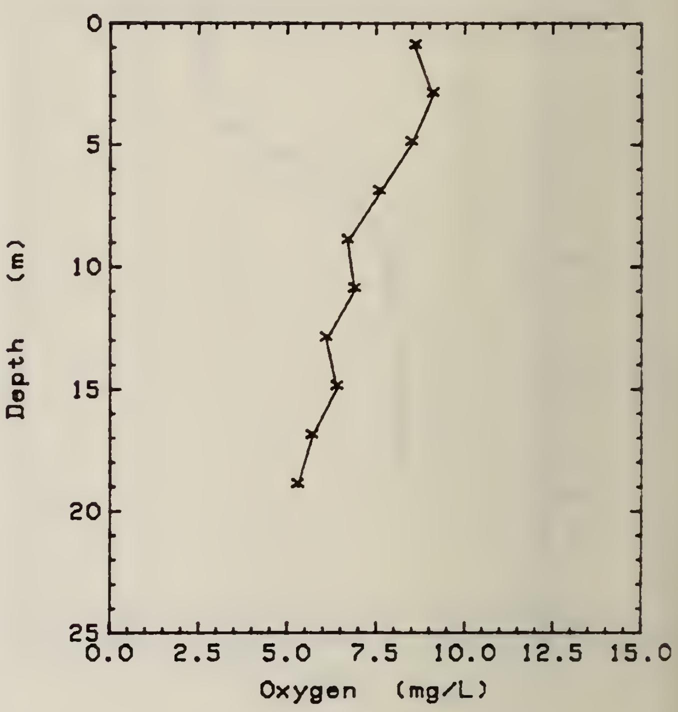

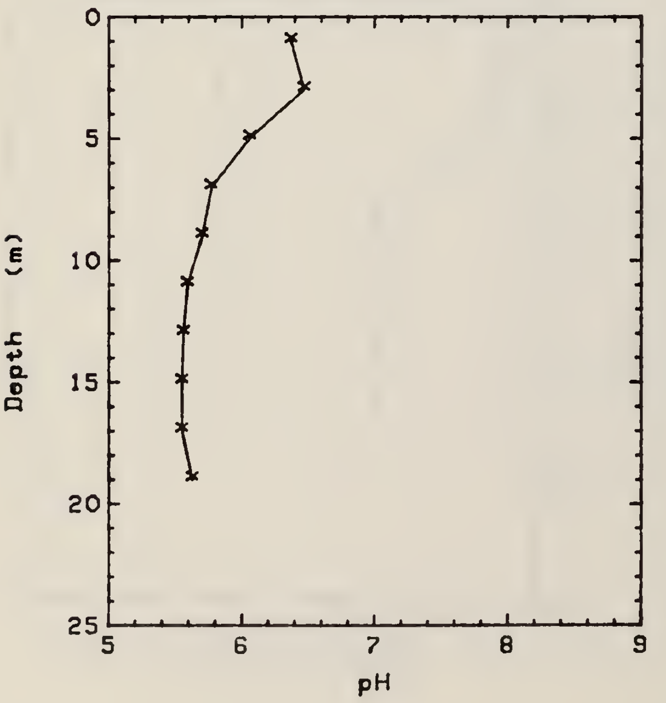

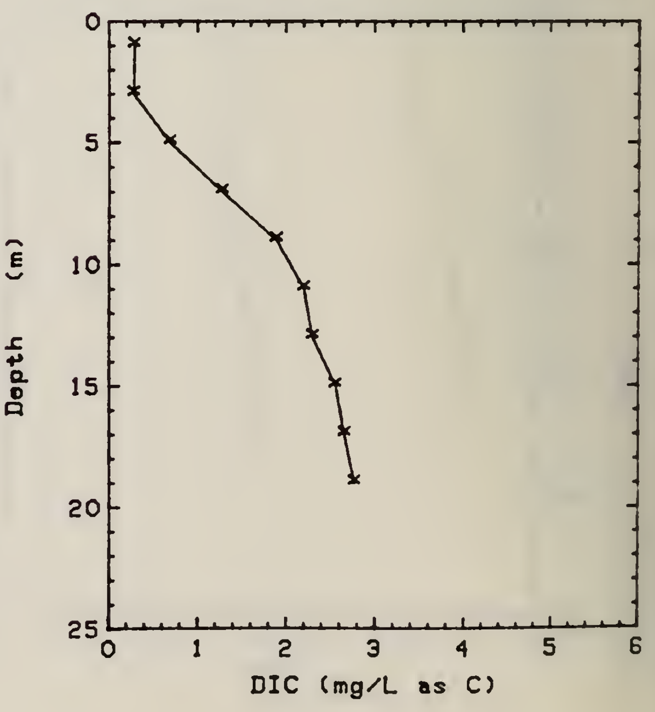

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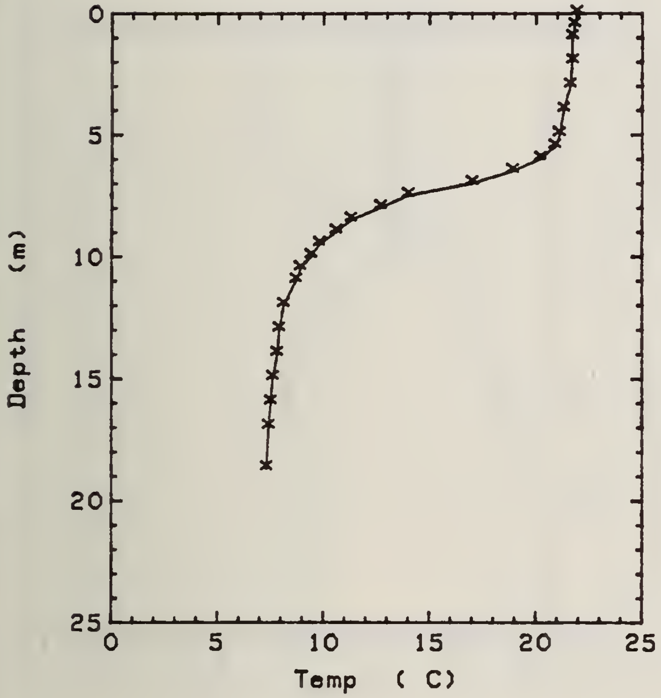

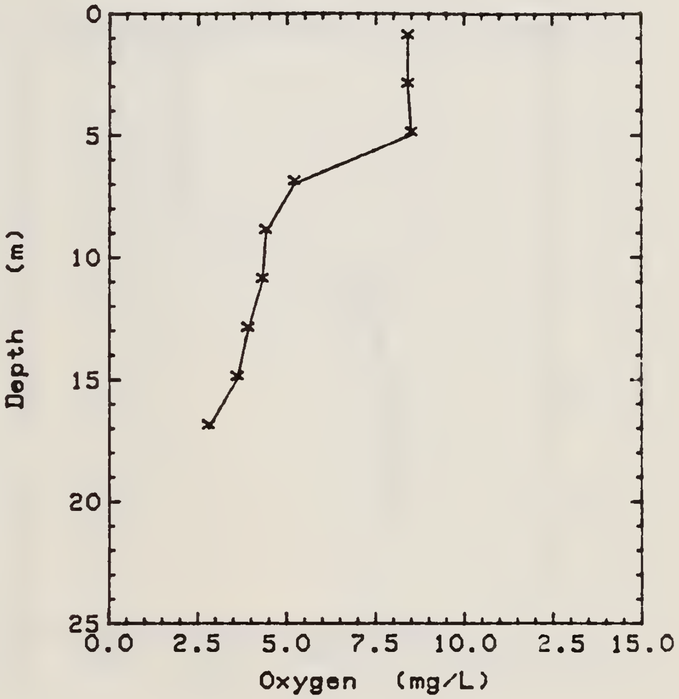

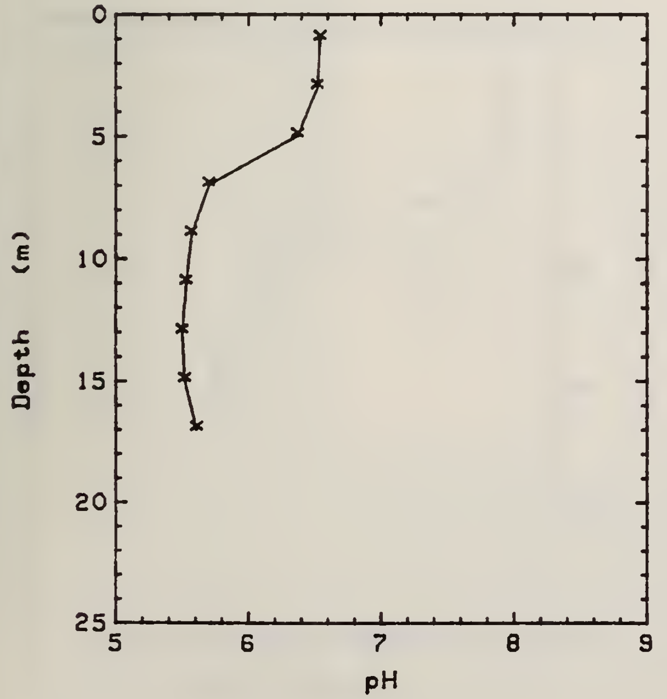

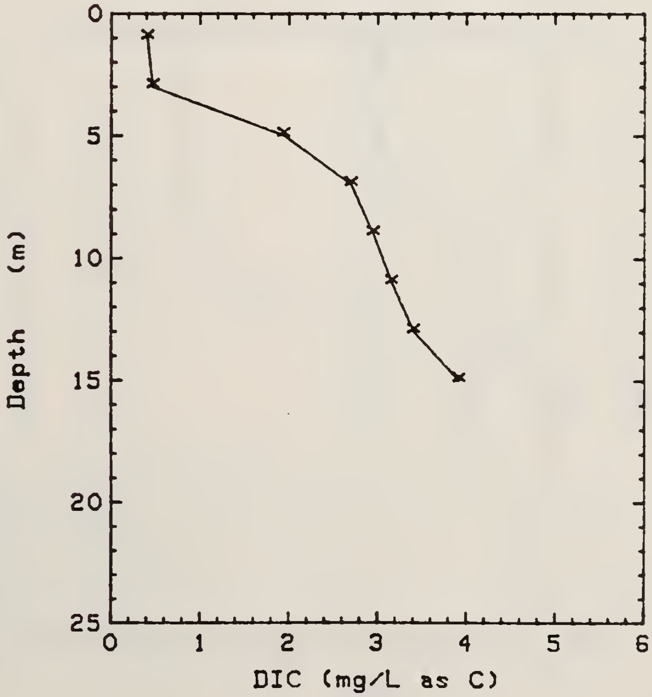

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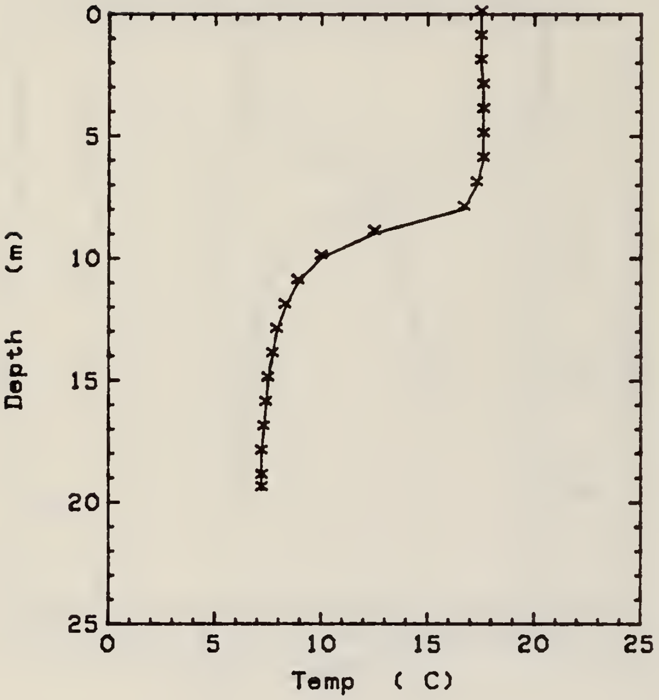

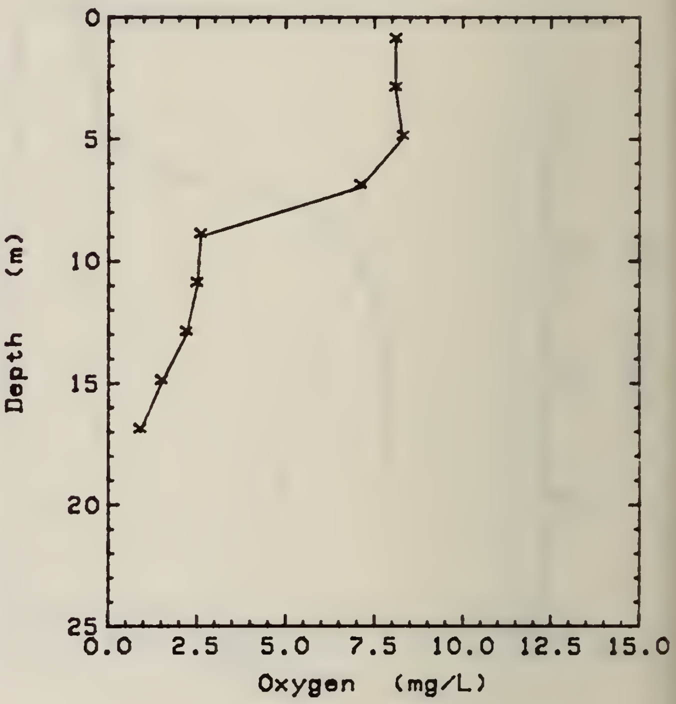

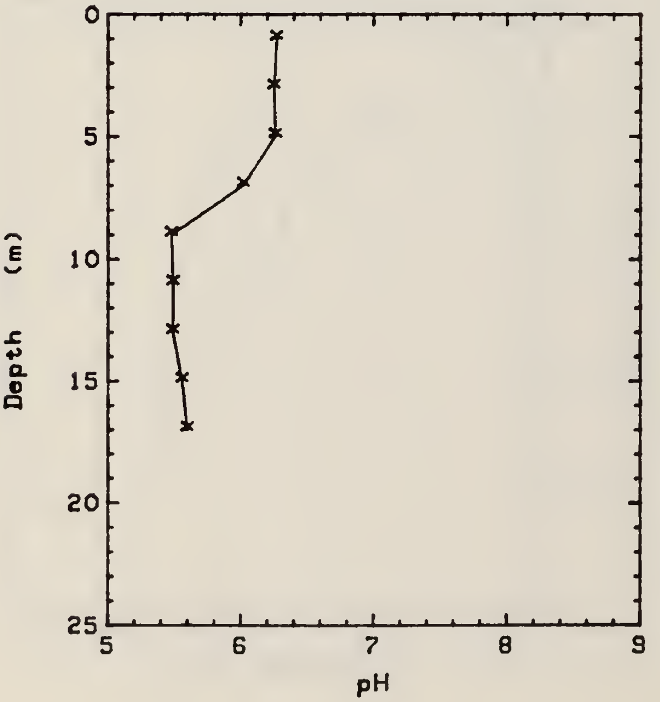

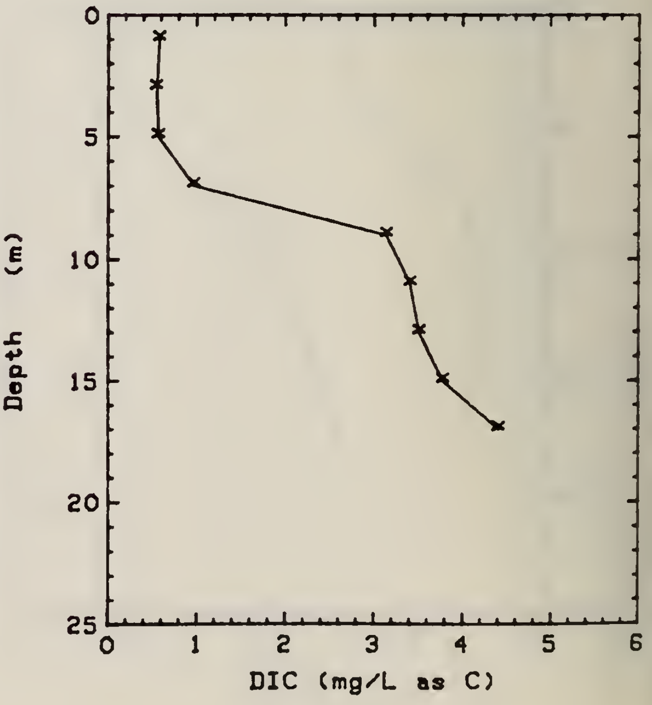

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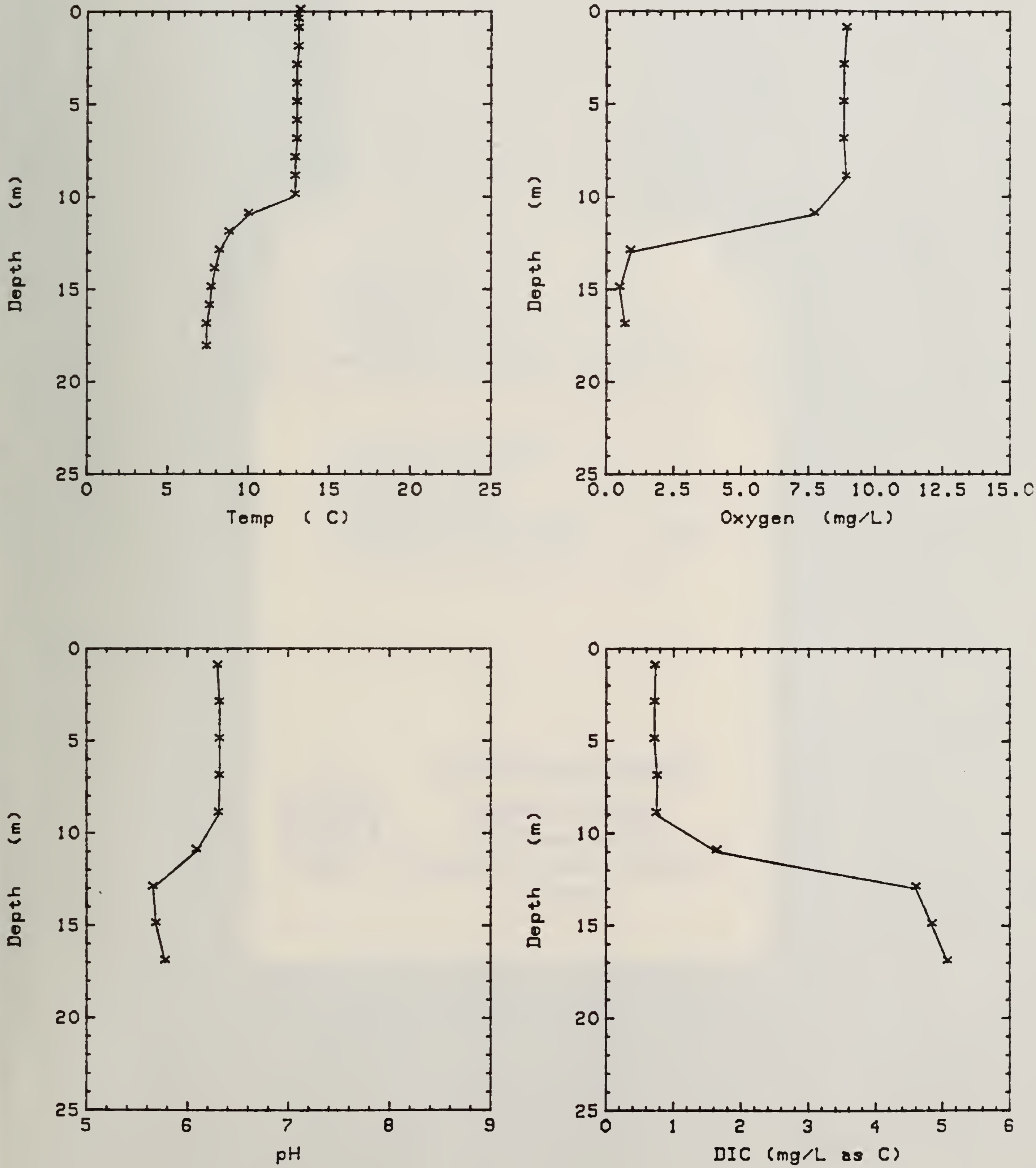

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